THE

FARMER'S MAGAZINE:

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BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Culture of Potatoes and the Cauſe of Curl.

Nihil humani a me alienum puto.

SIR,

I have been a regular and conſtant reader of your Magazine from its commencement; and I eſteem it ſo highly, and think its tendency ſo beneficial, that I conſider it as the duty of every wellwiſher to the proſperity of the country to give it all the ſupport and encouragement they can. You will give me leave to ſay, that I look upon its excellence as conſiſting, not ſo much in the information which it exhibits upon ſubjects of agriculture (though that is certainly conſiderable) as in its general tendency to excite and encourage a ſpirit of inquiry, of emulation and enterpriſe, and to elicit and combine every ſpark of genius, and every obſervation of experience, from the maſs of the community; that the mind may be thereby rouſed to reflection and attentive obſervation, from which only we may fondly hope will reſult a ſyſtem of agriculture founded on the ſolid baſis of judgment and experience.

You ſome where juſtly obſerve, that agriculture is the moſt extenſive of all manufactures, and the moſt important of all ſciences. It is from this ſource alone that the King to the meaneſt beggar are ſupported in exiſtence. When it flouriſhes and proſpers, the moſt heartfelt joy is diffuſed through all ranks; and our late experience has convinced every one what gloom and confuſion ariſes whenever it fails.

But this noble, this princely ſcience is only yet in its infancy. Much, no doubt, hath been done within theſe thirty years, but much yet remains to be done before the happy plains of Britain attain to that verdure and cultivation of which they are capable. If you act from the generous principle contained in the motto prefixed to this paper, which I am convinced you do, you will think even a trifle not below your notice, if it contributes any thing to the general good. I ſend you (literally) a trifle. If you think it is of any conſequence, you are at liberty to publiſh it; if not, you may conſign it to the flames, or do with it what you pleaſe.

I find that, almoſt in every Number of your Magazine, the ſubject of potatoes occupies the attention of many of your correſpondents. And there is not certainly any one part of agriculture more entitled to attention than this. People, like me, who are advanced in life, and who can remember the time when even the principal farmers did not plant more than a few pecks, muſt have obſerved, that the great plenty now enjoyed, eſpecially by the lower orders of ſociety, is more to be aſcribed to the extenſive and ſucceſsful cultivation of this eſculent than to any other cauſe. In a national point of view, therefore, it is of the higheſt importance; and ſo far as it extends, I am perſuaded that few crops will more compleatly recompence the labours of the huſbandman. The quantity of food that may be produced for the ſubſiſtence of mankind, and the money that may come into the farmer's pocket from an acre of well-cultivated potatoes will, I believe, be allowed to equal, if not very much to exceed, that of any other crop. I have frequently had forty bolls of good potatoes, at eight Wincheſter buſhels to the boll, from an acre. The mode of culture is now pretty generally known. Drilling and horſe-hoeing, when the ground is ſufficiently dry to admit of it, is, I preſume, generally practiſed. But the application of this uſeful vegetable, to all the purpoſes to which it is adapted, is not yet ſo univerſally attended to as it deſerves.

It is comparatively but of late years that potatoes have been uſed, in a raw ſtate, for the feeding and rearing of horſes and cattle, and they are not yet carried to the extent that they might be, otherwiſe we ſhould not have heard any complaints of the want of conſumpt of laſt year's abundant crop. It ought to be known, that

that cattle may be fed off for the butcher with potatoes nearly as ſoon and as well as with turnip. I know ſeveral farmers who did ſo laſt ſpring; and I myſelf have practiſed it frequently. There is one precaution, however, that is abſolutely requiſite to prevent ſuffocation, which is, to take care that the cattles heads ſhall never riſe above the level of their body; and this can be eaſily done, by fixing them with a chain to the crib inſtead of the common way. If this method were more generally adopted, many of the ſmall farmers, who cannot have extenſive turnip fields, would be able to keep their live ſtock in good order through the winter, or feed off a beaſt or two in the ſpring, by which means the loud and well founded complaints of the exorbitant price of butcher meat would ſooner ceaſe.

But what I would chiefly obſerve reſpecting the value of potatoes, is, that ſince the introduction of the turnip huſbandry into this country, and which has ſo eſſentially contributed to its improvement, the general ſolicitude has been for a proper ſubſtitute when the turnip are exhauſted, either to finiſh off what are intended for ſlaughter, or to carry on others in good condition till the ſpring graſs comes forward. I know that ruta baga is the ſuccedaneum preſcribed in either of theſe caſes. But when that is not to be had, or in a plentiful ſeaſon of potatoes, ſuch as the laſt, when they cannot be diſpoſed of for the food of man, they become an admirable ſubſtitute for turnip. I am acquainted with one farmer who fed with potatoes without any turnip; and two others who had recourſe to them when the turnip ſeaſon was over, one of whom conſumed to the extent of 100 bolls. The cattle were a little ſhy at firſt to take the potatoes after having been uſed to turnip; but hunger ſoon brought them to, and they throve equally upon the one as the other. It is well known, that horſes and young cattle thrive remarkably upon them, when given in moderation, and in a raw ſtate; and they increaſe the milk of cows very conſiderably. Let them, then, be largely and extenſively cultivated as the food of man and beaſt; as the means of averting ſcarcity; as a good ſubſtitute for turnip; and though not entirely equal to that crop for cleaning the ground, yet a good means of doing ſo where turnip cannot be had.

It has been objected, that potatoes are a more ſcourging crop than turnip. To a certain degree they are ſo: But a ſmall quantity of manure applied to the ſucceeding crop will remedy that defect; and the great difference of value betwixt a good crop of potatoes and one of turnips, may well bear that additional expence; not to ſpeak of their value as a ſubſtitute when the ſeaſon of turnip is over, which to the farmer is moſt invaluable.

Much ſpeculation has been held in your Magazine about the diſeaſe

diſeaſe called the Curl, to which this plant is liable. One gentleman, who ſigns himſelf P. H. gives us a moſt amuſing theory upon it in your eleventh Number. A theory which (however ingenious) will be readily acknowledged to be contrary to the general analogy of nature, and the experience of mankind in every other caſe. It is the general rule of nature, extending to the whole of animal and vegetable exiſtence, that the more perfect any one of either is, the more perfect will its produce be; and of courſe we would be led, *a priori*, to conclude, that the longer and more completely any foreign plant or vegetable is naturalized to a climate, the more healthy will it become, and the more readily will it endure the inclemencies to which the climate is ſubject, in ſo much as in time not to be diſtinguiſhed from that which is indigenous. And this, in fact, is as much the caſe with potatoes as with any other plant or vegetable whatever. For theſe kinds of potatoes which have been longeſt in the country, and in moſt general uſe, are found to be by far the beſt, the moſt wholeſome and palatable, and are ſooneſt ripe; while moſt of the new kinds are for ſeveral years ſlow and backward in their growth, ſeldom come to perfection, are generally of a looſe, ſpungy, and watery texture, and both unwholeſome and unpleaſant.

My opinion therefore reſpecting the cauſe of the curl in potatoes is different from any that I have yet ſeen publiſhed. I think it is more owing to ſeaſon than to any other cauſe. If the early part of the ſeaſon is ſo kindly and warm as to allow the plant to ſpring fairly up, and to take hold of the ground, there will be little or no curl. But if the potatoes are too early planted, or if the ſeaſon is cold and backward as this laſt ſpring hath been, we may expect curl in abundance. And ſo far as my obſervation reaches, this is uniformly the caſe. A late, cold, and froſty ſpring, and early planted potatoes, produce the curl; while later planted potatoes, or thoſe which are exempted from the froſt and cold at their firſt outſet, are more exempted from that diſeaſe. Potatoes that are planted on elevated and hilly or moiſt ſituations, and which cannot from neceſſity be ſo early planted as in warmer and more favourable ſituations, and which of courſe are later in ſpringing up, ſeldom before the end of May; among theſe the curl is ſcarce ever known, and are therefore had recourſe to as a change of ſeed, in thoſe places where the curl has prevailed.—Whether this ſyſtem is well-founded or not, it at leaſt has the merit of novelty, and, which is much better, it ſeems to be perfectly conſonant to the general analogy of nature, and therefore meriting ſome degree of attention. The child that has the misfortune to be nipped in its early infancy, either by improper confinement, or by the cold and harſh treatment of an unnatural and cruel mother or nurſe, becomes ſickly and dwarfiſh, and ten to one

one is decrepid for life; while an oppoſite treatment, produces a healthy child, blooming as the roſe, chearful and lively as the friſking lamb, ſmiling and happy as the lily of the valley.

If this is the cauſe of curl in potatoes, which I am convinced it is, the remedy is obvious, "Let them never be planted too early." The laſt week of April or the firſt of May is ſoon enough in any ſeaſon, and too ſoon if the ſeaſon happens to be froſty and cold. By this means they will eſcape the chilling morning and evening froſts. They will be able to expand their tender foliage to receive the benign influence of the ſun, and the dew of heaven, and they will thrive apace, and cauſe the heart of man to ſing for joy at the bounty of the Great Creator. If, notwithſtanding, there ſhould ſometimes appear a few injured plants, mark them with a ſtick, or any thing elſe, till it be ſeen whether or not the encreaſing heat and moiſture will recover them; and if they ſtill ſeem to continue dwarfiſh, dig them up and caſt them away, as incumberers of the ground. They are unwholeſome food, and would infallibly pollute the ſucceeding crop.

As my name can add nothing to your celebrity, I muſt content myſelf with aſſuming a fictitious one; and ſhall therefore beg leave to ſubſcribe myſelf, Sir, your very humble ſervant,

3. *Sept.* 1802. AGRICOLA.

Remarks on the above Letter. By the Conductor.

WE are much obliged to Agricola for the above paper; and reſpectfully ſolicit a continuance of his valuable correſpondence. Reſpecting the tendency of the Magazine, Agricola's ideas are much in uniſon with thoſe entertained by the Conductor. To rouſe the minds of agriculturiſts into action, to excite a ſpirit of enquiry in the country, and to forward every deſign calculated to promote its improvement, are more our objects than to diſſeminate inſtruction. We ſhall not, however, let ſlip any opportunity of conveying uſeful information, though we do not aſſume the privilege of giving it in a didactic manner.

In the preceeding Numbers of the work, a deal of information has been communicated concerning the culture of potatoes —a branch of rural oeconomy highly deſerving attention in many points of view; and various theories have been aſſigned, by our correſpondents, relative to the cauſe of that baneful diſorder, the curl, which ſince 1778 has dreadfully affected this valuable eſculent, in many quarters of Great Britain. However ingenious ſome of theſe theories may be, (and we believe that the praiſe of ingenuity is all that can be beſtowed) it is obvious, that we are completely in the dark reſpecting the real cauſe.

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The diſorder ſeems to be one of theſe ſecrets of nature, which, like that of ſmut upon wheat, threatens to remain long undiſcovered. We know for a certainty how to prevent both diſorders, and are to blame when the preventions are neglected.

Though we entertain a high opinion of potatoes, as food for human beings, yet we are not clear that they can be raiſed with advantage for the ſupport of cattle, as ſtated by our correſpondent. This eſculent is aſſuredly a ſevere robber; and, from the degree of labour neceſſary, proves a troubleſome article, when extenſively raiſed. Another circumſtance, and that very material, is, that the planting ſeaſon interferes with the working of the barley land, while the digging them up occurs at a critical period of the year, when labour is ſingularly precious. Beſides, potatoes are a moſt unhandy commodity, and cannot bear a compariſon with turnips, in feeding farm ſtock. We are convinced that it is eaſier to raiſe thirty tons of turnips per acre than ten tons of potatoes: therefore, in the arrangement of crops, a decided preference ought to be given to turnips; though, no doubt, if any potatoes remain on hand at the end of ſpring, they cannot be more beneficially employed than by giving them to live ſtock. All that we mean to ſay is, that it is an unprofitable trade to grow potatoes intentionally for live ſtock; though certainly, when other food runs ſhort, or when a quantity remains unconſumed, it is good management to uſe them in that manner.

As a ſubſtitute for turnips at the latter end of ſpring, potatoes are of importance; ſtill we think ruta baga preferable, though we confeſs, that the latter root is ſhy of growing upon many ſoils. But if potatoes are to be uſed regularly for cattle, betwixt the turnip and graſs ſeaſon, a certain extra-quantity muſt be annually planted for that purpoſe; which leaves a market for the ſuperfluity that attends a weighty crop to be as great a deſideratum as ever. It was ſtated in one of our former Numbers, that potatoes muſt either be very ſcarce or very plentiful. Nearly the ſame breadth of ground has been annually planted with this root for ſeveral years paſt. If the ſeaſon is good, they have uſually turned out a drug to the grower: whereas, in late, cold, and wet ſeaſons, the crop is ſcanty, yielding often three-fourths leſs of weight than what is gained under more favourable circumſtances.

Without giving our opinion of the cauſe of curl, aſſigned by our correſpondent, we decidedly coincide with him in reprobating early planting, which, in all our experience, was never followed by a good crop. The time he condeſcends upon for planting potatoes is early enough; though it is not more than two years ſince the public were amuſed with a moſt ingenious and plauſible ſcheme for planting them ſo early as the month of February—a ſcheme inconſiderately adopted by a few well-meaning people, to their great loſs and diſadvantage. N.

Thoughts

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on Conſtructive Reſtrictions, ſo far as they affect the Tenantry of Scotland.

SIR,

A queſtion has lately been agitated in ſeveral counties of Scotland, whether conſtructive reſtrictions can be impoſed upon the tenantry, in conſequence of ambiguous and undefined clauſes being contained in their leaſes; and various attempts have been made by proprietors to regulate the mode of cropping in the laſt year of the tenant's poſſeſſion, even when the leaſe was altogether open in that reſpect. The pretence generally offered for ſuch interference is drawn from the general clauſe engroſſed in all leaſes, viz. the engagement to manage the land in a huſbandman like manner, or words to that import. Upon this ground, many tenants have had their proceedings interrupted by interdicts from the judge ordinary of the bounds, which are eaſily obtained: a vexatious and expenſive proceſs neceſſarily follows; and before matters can be judicially aſcertained, the ſeaſon for executing the intended work is over, and of courſe much loſs and ſkaith ſuſtained by the tenant.

I believe that hardly one of theſe proceſſes has been determined upon a fixed principle, and that *ſpecialities* have generally been laid hold of as the baſis upon which the deciſion is given. This ſeems to be a favourite rule with our Scottiſh courts of juſtice, but is attended with bad conſequence to the public. It prevents people from knowing what is really the law of the land, and hence "the glorious uncertainty of the law" is a ſtanding toaſt amongſt its practitioners.

It appears to me, that no obligation can juſtly be impoſed upon the occupier of a farm, unleſs that he has expreſsly conſented to the performance of it in the inſtrument or deed under which he poſſeſſes the farm; and that to impoſe one burden under the pretence of ſecuring the performance of another, is an arbitrary attempt to oppreſs the occupier. The leaſe given by the owner to the occupier may be conſidered as the law which the parties have made for themſelves, therefore no obligation is incumbent upon the tenant except thoſe enumerated within the four corners of that inſtrument.

So far the generality of people are agreed; but a line of diſtinction may perhaps now be drawn. It will be alleged, on the landlord's ſide, that no more is demanded than what is contained in the leaſe. The tenant is bound to labour and cultivate his farm according

according to the rules of good huſbandry. He is now departing from theſe rules. He is ſowing too great a quantity of wheat (the inſtance of miſlabour generally quoted) and we have a right to ſtop him. War therefore begins, and a waſte of money is the uſual concomitant.

This brings me to the point I have in view, viz. Whether the nature of a general clauſe will warrant ſuch an interference as I have mentioned. That it fruſtrates the tenant's operations every perſon will grant, becauſe the interdict is uſually ſerved at a critical period of the ſeaſon. If the tenant is guilty of bad huſbandry, I readily grant that he has contravened the clauſe in queſtion; but that, by merely ſowing a quantity of wheat he becomes guilty, I deny in the moſt expreſs terms.

Every leaſe that I have ſeen contains ſuch a general clauſe as that alluded to, though often worded very differently. In ſome, the tenant is taken bound "to manage the land in a huſbandman-like manner;" in others, "to cultivate the ground according to the rules of good huſbandry;" in others, "to labour the ground fairly, according to the uſe and cuſtom of the country, and to keep the ſame in regular breaks." It is obvious, that no preciſe meaning can be affixed to theſe preſtations. They may be compared to the paſſage in Engliſh criminal indictments, where the culprit is ſaid to be tempted by the Devil, or the common phraſe in our decreet-arbitrals, the omiſſion of which, our beſt lawyers declare, nullify ſuch deeds. At the beſt, the general clauſe can only be viewed as one of theſe obſolete articles retained by conveyancers, after the utility of them has ceaſed, or perhaps they are preſerved for the benefit of legal people. To the tenant ſuch clauſes have, in many inſtances, proved grievouſly oppreſſive. To the proprietor, they are of no importance; for if he wiſhes his land cropped in a particular manner, he has a much ſurer way of getting his wiſhes fulfilled, by ſpecifying in the leaſe the mode of cropping that is to be practiſed during the currency, or at the concluſion thereof.

If a tenant is taken bound to labour according to the rules of good huſbandry, a queſtion occurs which has not yet been ſolved. Whether is it the huſbandry practiſed at the time of making the agreement, or that practiſed at the time of challenge? If it is the huſbandry practiſed at the date of the leaſe, then every kind of improvement is effectually prohibited. If it is the huſbandry of an after period, then the tenant is to be judged by a law that was not enacted when he ſigned his leaſe. In this aukward predicament are the advocates for conſtructive reſtrictions often placed. The more rational mode of interpreting this clauſe has been, to view it as not applicable to the mode of cropping

ping, but as containing an obligation on the tenant to keep his land clean and in good heart. In this way we believe it was anciently underſtood, and ſo might prove advantageous to the parties.

The clauſe, as applying to the preſervation of breaks, is ſtill more abſurd, though it is conſiſtent with our knowledge that it was lately founded upon in an action for miſlabour. It is well known, that fifty or ſixty years ago, almoſt the whole infield land of Scotland was divided into what was technically called mucked land breaks. Theſe breaks generally amounted to four in number on each farm; and, according to the old cuſtom of Scotland, one of them was ſown with wheat, the ſecond with barley, the third with oats, the fourth with peaſe, and the whole dung made upon the farm was laid upon one of theſe breaks, generally the one intended for peaſe, while what was called outfield was utterly neglected. Hence aroſe the obligation to keep the land in *regular breaks*, and any alteration was characteriſed as *croſs cropping*. Indeed, the aboliſhment of outfield and infield may juſtly be conſidered as the greateſt improvement that has been introduced into Scottiſh huſbandry; yet this improvement could not have been accompliſhed had the clauſe in queſtion been adhered to.

It may here be remarked, that the ſowing a greater quantity of wheat than cuſtomary in the penult year of the leaſe, before the introduction of ſummer fallow or the aboliſhment of outfield, neceſſarily was a contravention of the general clauſe; therefore ſuch a deviation from good huſbandry might, in conſiſtence with the ſtricteſt principles of juſtice, be prevented or puniſhed. The cuſtom of the country, as already ſaid, was then to ſow wheat on one break, viz. that which had carried peaſe in the preceding year. If the tenant exceeded his uſual quantity, it occaſioned croſs cropping, or, in other words, cauſed a departure from the ſyſtem univerſally eſtabliſhed at the time. The complete alteration which, in our agricultural ſyſtem, has taken place during the courſe of the laſt century, therefore renders the ancient conſuetudinary law altogether uſeleſs. By fallowing a great breadth of ground, or by an extenſive uſe of fallow crops, the ſowing of wheat may be carried on to a much greater height than was practicable under the old ſyſtem. To apply the uſages and cuſtoms of a period (perhaps right at the time) to the uſages and cuſtoms of a period wherein huſbandry is practiſed upon principles different in every reſpect, is a manifeſt abſurdity. I may here borrow the words judiciouſly ſtated in the ſecond number of laſt volume, as they are quite applicable to the queſtion under diſcuſſion. "The numerous diſputes in our law courts con-

cerning agricultural matters proceed entirely from the change that has taken place in the agricultural ſyſtem; a change that renders the ancient common law of the land as inapplicable to the preſent ſtate of huſbandry as the obſolete ſtatutes of King James VI. againſt *coſtly claithing*, are to the faſhions of the preſent age."

Again: To labour the ground fairly, aſſuredly means that the tenant ſhould plough the land ſufficiently; that he ſhould keep it clean; and that it ſhould be kept dry: for if this laſt operation is neglected, it can neither be ploughed ſufficiently, nor kept clean. It has often ſurpriſed me, that proprietors ſhould be ſo ſhort ſighted as to paſs over the groſſeſt deviations from the general clauſe, which were fairly included in it,—and yet immediately take alarm when a tenant, from a concurrence of favourable circumſtances, was enabled to make his farm produce a conſiderable quantity of wheat. The ground is without doubt more deteriorated by bearing a crop of thiſtles and couch graſs than by the ſtrongeſt crop of wheat that can be raiſed; yet, the former is patiently ſuffered to paſs with impunity, while, under the latter caſe, the tenant is often haraſſed with vexatious proſecutions, even though he has prepared the land in a ſufficient way for carrying a crop valuable to himſelf, and beneficial to the public.

From what cauſe does this ſtrange conduct proceed? I have a better opinion of many of the complainers than to ſuppoſe that ſuch proceſſes are wantonly inſtituted. I think I can account for it in a way which will not ſacrifice the qualities of the heart to thoſe of the head. Before the introduction of ſummer fallow, wheat was undoubtedly a ſcourging crop; for, owing to the ſeaſon in which it was ſown, and to the imperfect culture given by one plowing to land which had carried a crop of peas, it was almoſt impracticable to ſow land with wheat without materially injuring it. But what injured it? Not the crop of wheat, but the immenſe quantity of graſs and noxious weeds which accompanied it. Theſe being ſuffered to remain undiſturbed for a whole year, got ſuch a hold of the ground that the moſt active cultivation could not eradicate them completely when the enſuing barley crop was ſown. Now the caſe is totally altered. Since fallow and fallow crops were introduced, the land that has carried wheat is, in general, the cleaneſt that is to be found in every farm; conſequently, a crop of this grain is not more injurious than any other culmiferous crop under ſimilar circumſtances.

I have ſeen it maintained in legal proceedings, that wheat is a ſcourging crop, becauſe it remains long in the ground. Such an aſſertion is puerile in the extreme; for, if it was well founded

founded, graſs land would ſtill be more ſeverely ſcourged. But waving the argument, I would enquire, What exhauſtion does the ground ſuſtain during the winter months, from being occupied by wheat? This, I ſuppoſe, will be difficult to compute. The fact is, that wheat is no more a ſcourger than other culmiferous grains, if the ground is equally well cultivated. If it yields a greater weight of ſtraw, it gives likewiſe a greater return of dung; conſequently, the exhauſtion of one year is abundantly compenſated afterwards.

It is a great miſtake, to ſuppoſe that the wheat lands are in a more reduced condition than thoſe where this grain is ſeldom ſown. From long attention to the ſtate of cultivation in Scotland, I venture to maintain, that thoſe diſtricts, which grow the greateſt quantity of wheat, are uniformly beſt cultivated. This muſt always be the caſe, where the cultivation is ſuch as to render it conſiſtent with the farmer's intereſt to ſow this grain extenſively. Before this can be done to advantage, much preparation is neceſſary: a conſiderable quantity of ſummer fallow is conſtantly required, and graſſes and drill crops muſt form a large ſhare of the previous ſequences. Without attending to theſe particulars, a large ſowing of wheat cannot be ſucceſsfully accompliſhed: and it is to be preſumed, that the farmer who manages in that way has previouſly arranged matters accordingly. If he has not, I hold that he cannot ſerve himſelf by an extenſive ſowing of wheat, even in the concluding year of his leaſe.

I have conſidered the general clauſe chiefly, as if it applied only to the ſowing of wheat, becauſe it is from this ſource that nine out of ten of the proceſſes for miſlabour originate. I may allow the force of the general clauſe, and conſiſtently contend that ſowing one half of an arable farm with wheat is not contrary to the rules of good huſbandry. If wheat is ſown after fallow, or drilled beans, or turnips, or clover, the rotation may go round without the leaſt interruption. It is now an acknowledged principle in farming, that two white crops ſhould not ſucceſſively be ſown; but that, if a leguminous and culmiferous crop is taken alternately, it is a matter of no importance, ſo far as reſpects good farming, what variety the culmiferous crop is of,—ſituation, climate, and conveniency, being the only circumſtances that ſhould juſtify the election. It is plain, that under ſuch a ſyſtem, one half of a farm, where the ſoil is rich, may conſtantly be kept in wheat. That the ſyſtem is not generally purſued, on deep rich ſoils, muſt be attributed more to a conviction that it is rather in common caſes inconſiſtent with a regular diviſion of labour thro' the ſeaſon, than to ideas entertained of its inutility or impropriety.

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In a word, I am decidedly of opinion that the general clauſe, if it is applied to cropping, is of a miſchievous tendency to the farming intereſt of Scotland. I have witneſſed this in many inſtances, and been amazed to ſee it ſupported by reaſons directly contradictory. I remember well of being concerned in a remit from the ſuperior court, in company with two gentlemen of acknowledged abilities. The buſineſs hinged almoſt entirely upon the quantity of wheat ſown; for the farm under conſideration was in excellent order. One of my coadjutors maintained, that the tenant had contravened the leaſe, becauſe he had not followed out a regular rotation of fours or ſixes; and that, without adhering to ſome one or other of theſe rotations, no huſbandry could be good.—I don't care a halfpenny, ſays my other friend, what mode of cropping has been practiſed, providing one half of the farm is under green crops. The tenant may make wheat of the other half, if he pleaſes; but for all the acres in culmiferous crops above that half, I maintain that he is liable in damages. In this way are tenants often treated at the concluſion of a leaſe, which ſurely does not hold out much encouragement to the introduction of ſubſtantial improvements at an earlier ſtage; I mean, ſuch as are gained from draining, liming, and grazing the land,—ſeeing that occupiers may be deprived, in a legal manner, of reaping the full fruits of ſuch improvements.

If the general clauſe is confined to what appears to me to be its original and true object, viz. keeping the land clean and in as good heart as poſſible, then my oppoſition is at an end; but when it is applied to the mode of cropping, or to the kind of grain raiſed upon a farm, it opens a door for endleſs litigation.—The ſame rule can ſcarcely be eligible over all the farms of a ſingle pariſh, but muſt be utterly wide of juſtice when the practice of a country is meaſured by it. It ſubjects the management of practical and experienced farmers to the judgement of law courts, who cannot be ſuppoſed to poſſeſs the means of information. The farmers of Scotland will indeed deſerve pity if their management is to be ſubjected to ſuch a review. If the beſt method of cropping a farm is to be determined on the Bench, Sir William Pulteney may recall his donation for erecting a profeſſorſhip.

I have thus endeavoured to point out a few of the evils which may affect the tenantry of Scotland, if conſtructive reſtrictions are to be drawn from ambiguous or undefined covenants. The only method by which theſe evils can be avoided, is to get the general clauſe expunged altogether, or accompanied by a ſuitable explanation. As to proprietors, it would be a preferable plan were they to mark in a diſtinct manner the reſtrictions they mean ſhould be enforced at the concluſion of a leaſe. The tenant would then know

know the preciſe obligations which were to affect him or his heirs, and if he fooliſhly agreed to ſuch as were improper, then he would have no perſon to blame but himſelf.

The inferences which I draw from what is ſaid, are,

Firſt, That conſtructive reſtrictions are a great loſs to the tenantry of Scotland, expoſing them to vexatious proſecutions, and occaſioning much damage to individuals by the unavoidable conſequences, without benefiting proprietors or the public.

Secondly, That the preſtation of managing in a huſbandman-like manner, or the general clauſe, however worded, ought not to be applied to the mode of cropping, or the kind of grain ſown in the penult year of the leaſe, but merely to the order and condition in which the farm is kept or left by the occupier.

Thirdly, That the pretence uſually aſſigned for a proprietor's interference, viz. ſowing an exceſſive quantity of wheat, is altogether unfounded, providing the ground ſo ſown is in good order; in other words, that it was fallowed or under a green crop in the preceding year.

Fourthly, That proprietors who wiſh to lay tenants under reſtrictions, at the concluſion of their leaſes, would act with more propriety were they to ſpecify theſe reſtrictions when the agreement was entered into betwixt the parties.

I have now to requeſt your excuſe for taking up ſo much of your publication, but the importance of the ſubject will, I truſt, juſtify me in your eyes. I am your's, &c.

ARATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Improvement of Land conſidered by many people as Unimproveable.

SIR,

A MISTAKEN idea ſeems to be entertained by many people, reſpecting the propriety of attempting to improve the upland diſtricts of the country; and a diſtinction has been made betwixt lands conſidered to be improveable and thoſe that are not, which, in my humble opinion, is not well founded. I know very little land but what may be improved conſiderably, if proper means are uſed; but that theſe means can be uſed by the majority of the tenantry, is a problematical point. The proprietors of ſuch lands ought, therefore, to ſtep forward at once, and execute what is neceſſary: or, if extenſive improvements are not conſonant

ſonant to their inclinations, they ought to put the lands into the hands of ſkilful tenants, whoſe capital ſtock is adequate to the undertaking required;—encouraging them by long leaſes and low rents. If a ſyſtem like this were generally adopted, I have hardly a doubt but that the moſt barren of our waſte lands would, in a ſhort time, be very much meliorated.

Allow me to put a hypothetical caſe, which will illuſtrate the buſineſs under conſideration. Suppoſe a farm in a high ſituated diſtrict, where the ſoil is cold and barren; the climate wet; the face of the country naked, and unprotected by fences or plantations; unprovided with roads, except ſome tracts marked out by the carts and horſes who have paſſed; at a great diſtance from lime, and other manures; and, from the want of ditches and drains, having all its beſt and low-lying fields inundated with water, during every ſpeat at the going away of a ſnow ſtorm.—Under theſe ſuppoſitions, (and they will upon enquiry be found in many caſes to be facts) can it be expected that any tenant of common ſenſe will make improvements, if he ſits on a ſhort leaſe, or is rack-rented? The portion of juſtice he owes to himſelf, to his family and to his friends, deters him from making outlays greater than will be repaid by common huſbandry: and a rack-rent effectually diſables him from ſtepping out of the beaten path, were he inclined to purſue a different courſe.

From theſe things, the neglect of improvements in the cold upland diſtricts need not excite any ſurpriſe. It is a neceſſary conſequence that follows the ſyſtem uſually adopted in ſuch ſituations, and can only be remedied by the introduction of more liberal plans. The proprietor who poſſeſſes land under ſuch circumſtances, muſt either be ſatisfied with the value it will yield in its *natural* ſtate,—or, if he wiſhes to reap the full benefit of his property, muſt cauſe improvements to be made, in the firſt inſtance, at his own expence, or ſet it to others upon terms that will enable them to perform what is neceſſary. A rack-rent and an improving leaſe cannot keep company together; and, if the one is to be got, the other muſt be ſacrificed.

If a good tenant is expected, the firſt thing required is to provide proper accommodations for him and his family, his ſervants and farm ſtock. Tenants will not now put up with ſuch accommodation as ſatisfied them in former times; and a good tenant knows how to eſtimate his value, eſpecially in a country where improvements are the object. Good roads, ſo as the tenant may have comfortable acceſs to the premiſſes, and through the ſeveral fields thereof, will alſo be conſidered as a deſirable benefit. The farm ſhould alſo be incloſed, or at leaſt a ring fence ought to be erected, ſo as the property of the tenant may be protected from the

the depredations of his neighbours. Theſe are all permanent improvements; and, agreeable to the principles of juſtice, ſhould be executed at the ſole expence of the proprietor.

I am ſenſible, that in ſeveral diſtricts much ground is to be found that is not worth ſuch improvements as I have deſcribed, but theſe need not on that account be neglected. They ought to be planted with ſuch varieties of timber trees as are moſt adapted to their ſoil and climate. Wood land anciently prevailed in Scotland to a great extent; and there ſeems no real reaſon why it might not ſtill thrive if proper care was taken to protect plantations in their early ſtage. The deadly feuds of the military Barons in former times, and the *letters of fire and ſword* iſſued by our law courts, contributed to the deſtruction of the numerous foreſts with which Scotland was interſperſed; and it is now time to reſtore them, ſeeing that ſo much land is to be found not calculated for improvement in any other way. To encourage tenants to plant, timber ought to be conſidered as a crop, which he that ſowed might alſo cut.

Fuel is now conſidered by many people as one of the neceſſaries of life; and aſſuredly it is of importance to provide a full ſupply for the comfort of the inhabitants. In many diſtricts much time is loſt in digging and preparing peats which might be devoted to better purpoſes were coal-mines more attentively ſought after. It would therefore be an adviſeable meaſure for the gentlemen of every county to imitate Dumfrieſhire in making mineralogical ſurveys; the expence would not be great, but the benefit would be immenſe. Your's, &c.

A——N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Benefit of keeping a Stock of Swine.

SIR,

IT appears to me that a conſiderable advantage might be gained from keeping a greater number of ſwine upon tillage farms than is uſually done; and I ſhall ſtate the grounds of this opinion in a conciſe and diſtinct manner.

Swine are the only variety of granivorous animals that can be fed upon the offal of grain, or ſuch articles as would otherwiſe go to waſte about a farm ſteading. Since the erection of threſhing machines, a much greater quantity of light grain is beat

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from the ſtraw than was gained when the flail was employed. To uſe this extra quantity to advantage becomes an important concern to the occupiers of land; and I venture to ſay, that the uſing of it in raiſing and ſupporting ſwine is by far the moſt profitable mode of conſuming an article, which, in other reſpects, is comparatively of little value.

Upon a tillage farm conſiſting of 300 acres, whereof 200 are kept under the plough, it is my opinion, that a ſum not leſs than 100l. Sterling may be annually gained from keeping ſwine, were the management arranged in a ſyſtematic manner. One main advantage of ſuch a branch of rural economy ariſes from little or no capital being required to carry it on, while the trouble and outlay attending it ſcarcely deſerve notice. With the addition of one acre of broad clover, and one acre of tares, for the ſummer and autumn months, and the like extent of ground for turnips and yams during the winter and ſpring months, the whole not exceeding 20l. in value, the ſtock of ſwine that I am now to recommend may be amply ſupported.

Were two breeding ſows kept on a farm of the ſize I have mentioned, and their produce reared by the farmer, it may be calculated, that 40 ſwine would be annually fed off, the value of which, in the months of January and February each year, the time when pork is moſt in demand, would be 50s. each, even granting that the price of pork was much lower than at preſent, and the total amount the ſum I have already condeſcended upon. That ſuch a number of ſwine can be ſupported and fed upon the offals of a 300 acre farm, and the other auxiliary articles ſpecified, may be pronounced a certain fact. I have tried it myſelf, though rather upon a ſmaller ſcale, and the profit gained has been fully more than I have ſtated. Where ſuch a ſyſtem of management is purſued, I decidedly recommend the ſmall breed of ſwine, becauſe they will feed in a ſhorter period, and thrive upon articles that would ſtarve the larger ſized animals. When I ſpeak of a ſmall breed, I do not mean thoſe that paſs by the name of Chineſe or pot-bellied ſwine. The kind I have in view is ſwine that will feed upon common fare to 7 or 8 ſtones Amſterdam when 11 or 12 months of age, or to 9 or 10 ſtone when put up in the houſe to receive better fare. I am ſorry that I cannot claſſify this breed, but it is by far the beſt for going on a farmer's dunghill, and will thrive where finer and larger breeds would be ſtunted and ſtarved.

The mode of management which I beg leave to recommend is, that a boar and two good ſows of a proper age ſhould conſtantly be kept, and that one young ſow ſhall annually be reared, in order to ſupply the others when they paſs maturity.

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I would caſt off the oldeſt ſows, *i. e.* feed them when they arrive at 3 years of age, which of courſe would cauſe four ſows to be in hand at one time. Theſe annually would produce more than the 40 pigs, which are to be held on; but the remainder might be ſold as they are weaned, there being a regular and ſteady demand in the country for young pigs.

It is obvious that, at the preſent rate of markets, 40 ſwine, weighing 7 or 8 ſtone each, are worth more money than I have ſtated; but, even upon the ſuppoſition that markets may fall conſiderably, the neat profit would ſtill be as much as is deſcribed. I apprehend that people will be readier to admit the truth of this part of the ſtatement, than that ſuch a number can be ſupported at ſo little expence; but this point can only be ſatisfactorily elucidated by an appeal to experience.

I have, for a number of years, kept a ſtock of ſwine in the way recommended. They go at large in the court or yard belonging to the farm, and receive a feeding of offal grain in the morning, and of yams or turnips in the evening; and the meat fed in this way has conſtantly drawn the higheſt price. They get alſo the diſh-waſhings of the houſe, any milk or whey that remains unconſumed, and have the dung-hill to roam upon, where perhaps more food is to be gathered, eſpecially if the horſes are fed upon unbroken grain, than is commonly imagined.

It will readily be figured, that under this mode of management, the latter end of ſummer and the harveſt months is the critical period for carrying on a ſtock of ſwine. During theſe months little threſhing goes forward, and horſes ſeldom receive any corn for aliment; hence all that can be conſiſtently attempted is to keep the animals in a growing ſtate, and prepare them for fattening cleverly, when food of a more nutritious quality can be procured. Clover and tares will do this effectually, the laſt particularly ſo when in a podded ſtate. Turnips can alſo be got by the end of September; and it muſt be recollected, that through the ſummer months a conſiderable quantity of milk and whey can be given, upon which ſwine will be found to thrive heartily.

That ſwine can be ſupported upon clover during ſummer is not a new doctrine. The practice has long prevailed in England, and ought to be adopted extenſively in this country. I once incloſed a ſmall part of a field with boards, into which I put my ſwine ſtock, taking care to put a ring into their noſe before hand, ſo as they might not injure the ground, and they throve very well.

In a word, I do not know a more beneficial ſtock upon a farm than ſwine, ſo long as the quantity kept is in proportion to the

extent of offals about the premiſſes. The other articles recommended are merely meant to render the conſumption of offals more beneficial, or to carry on the ſtock at periods when ſuch offals are ſcarce. The charge of attendance is very ſmall; indeed the benefit gained by the dung-hill will more than compenſate the expences incurred. To make as much profit as I have mentioned from cattle or ſheep requires a great advance of money; but in the article of ſwine hardly any is neceſſary, while the moſt part of the articles conſumed cannot, in any other way, be converted to ſuch beneficial purpoſes. I am, your's, &c.

A RURAL ECONOMIST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Experiments on the Diſtillation of Roots.

SIR,

IN your Magazine for April 1801, I mentioned my intention to make ſome experiments on the diſtillation of different roots; I now fulfil my promiſe, and hope the experiments will tend to uſeful purpoſes.

Having obtained the permiſſion and approbation of the Commiſſioners of Exciſe, I have diſtilled fifteen kinds of ſpirits, which, by the direction of that Honourable Board, will be ſent in a few days hence to their ware-houſe at Leith, that their qualities may be aſcertained by the Commiſſioners themſelves. Theſe fifteen kinds are,

1. *Potatoes* combined with malt, twice diſtilled.

2. The middle runnings of potatoes, in order to ſhew how fine a ſpirit may be made from potatoes only twice diſtilled.

3. Potatoes thrice diſtilled; in order to ſhew the difference between two and three diſtillations of this valuable root.

4. Potatoes thrice diſtilled, and having a ſmall quantity of the lees of red port wine mixed with the low wines or firſt diſtillation. By this mixture, and ſubſequent diſtillations, the eſſential oils of the potatoes are abſorbed or deſtroyed; and the flavour of the port wine lees alone remains.

5. Spirits from potatoe juice, which is commonly ſuppoſed to be deleterious. The effect of this experiment tends to prove, that the noxious qualities are in the skin rather than in the juice of the potatoe.

6. Spirits from *Carrots, thrice diſtilled.* This makes a very fine kind of ſpirit; and the mixture of wine lees was here judged unneceſſary, as the eſſential oils of the carrot are more agreeable than thoſe of the potatoe.

7. Spirits

7. Spirits from *White and Green Beet, twice diſtilled.* As the German chemiſts have been much employed in making ſugar from the beet, I wiſhed to ſee what kind of ſpirits it would yield; and am ſatisfied that it contains a great deal of well flavoured ſpirit.

8. Spirits from *Red Beet, thrice diſtilled;* in order to ſee how much beet ſpirits were improved by a third diſtillation.

9. Spirits from *Salſafy,* (the tragopogan porrifolium) *twice diſtilled.* The reaſon for diſtilling this root, which does not contain ſo much ſaccharine matter as any of the preceding plants, was, that the beſt judges of the comparative qualities of different vegetables, (I mean the cows) are extremely fond of ſalſafy.

10. Spirits from *Scorzonera.* This is a root which reſembles ſalſafy, and is much uſed in cookery on the continent of Europe. The ſpirits extracted from both theſe roots make very excellent liquors; and if uſed for that purpoſe in Great Britain, would ſuperſede the neceſſity of importing foreign liquors.

11. Spirits from *Parſnip.* This makes a very good ardent ſpirit, though it is not quite ſo palatable as that from carrots.

12. Spirits from *Ruta-baga,* or Swediſh turnip. This is a coarſe kind of ſpirit, when uſed by itſelf, though it may do when compounded with others. Common turnips are not worth the expence of diſtillation; and the ſpirits extracted from them are very coarſe.

13. Spirits from *Clover Hay.* This makes a good kind of cordial; but is not ſo agreeable in punch, or mixed with water.

14. Spirits from *Rye or Ray-Graſs Seeds.* This is juſt the reverſe of the preceding kind, making better punch than when uſed as a dram.

15. *All Spirits.* This is from the weak low wines of all the preceding roots mixed and diſtilled. It is an excellent kind of ſpirit, and ſhews that many articles will do very well in compoſition with others, which do not anſwer when uſed alone. A proportion of malt, generally one-third of the weight of the roots, was uſed for promoting the fermentation.

The reſult of theſe experiments appear to be the following:

1. The qualities of all ſorts of ſpirits are *ſtrength* and *flavour.* By uſing thoſe vegetables which abound moſt in ſaccharine matter, (ſuch as potatoes, carrots, beets, and parſnip), at leaſt thrice, and in well cultivated lands, four times more the quantity of ſpirit can be produced from an acre of green crop, than from an acre of any ſpecies of corn.

2. When any plant abounds in ſaccharine matter, but is not ſo well flavoured, let it be once diſtilled; and then let any other vegetable,

vegetable, whoſe flavouring or eſſential oils are much eſteemed, be fermented, and its waſh put among the low wines of the other; then let the whole maſs undergo other two diſtillations. By this means a great quantity of pure ſpirits will be obtained; and the eſſential oils of the ſecond or beſt flavoured kind only will remain.

3. In order to encourage diſtillation from roots, let a moderate tax at firſt be impoſed on the gallon of ſuch ſpirits; and let that tax be gradually augmented, as the diſtiller becomes better acquainted with the art of diſtilling them, and introduces machinery inſtead of manual labour, in cutting, bruiſing, or preparing them for the ſtill.

4. Let Great Britain, which cannot raiſe corn ſo cheap as other nations, ſupply the rectifiers chiefly from the green crop, (uſing malt only for promoting the fermentation) and we ſhall have little occaſion for ardent ſpirits from other nations.

5. By diſtilling roots, the quantity of manure will become every year greater, and the advantages every way to Britiſh agriculture will be incalculable; while great encouragement is given for Britiſh labour, and alſo in unfruitful ſeaſons we can apply to the purpoſe of human food a much greater quantity and variety of roots, than we would otherwiſe have raiſed in our iſland.

6. I am far from pretending to have carried theſe experiments ſo far as they might be carried, even by myſelf. But I firſt ſtarted the idea of diſtilling from roots, in the Diſtillery Committee of the Houſe of Commons, when I was examined before them in April 1798; and at their deſire I conducted a ſet of experiments in diſtillation in ſpring 1799, when I diſtilled, beſides malt and raw grain, both carrots and potatoes, with the approbation and permiſſion of the Commiſſioners of Exciſe, who very obligingly ordered the ſuperior and officer of the diſtrict to give me every aſſiſtance in their power: I have now diſtilled ſeveral other kinds of roots. But with the whole vegetable world before us, diſtillation may be carried much farther to the benefit of the agriculture, commerce, and revenue of Great Britain. In conducting theſe experiments I have no intereſt, but what every man has in the proſperity of his country.

GEO. SKENE KEITH.

Manſe of Keith-hall, Oct. 18. 1802.

FOR

FOR THE FARMER'S MAGAZINE.

A short History of Tythes, Teinds or Tenths, as applicable to Scotland

TYTHES are of Jewiſh inſtitution. Under the law of Moſes, the whole tribe of Levi were to be maintained out of the induſtry of the other eleven Iſraelitiſh tribes, who were bound to pay them a tenth part of their own income. But we ſeem to have as little connection with this particular part of the Jewiſh policy, as with that other part of the ceremonial law which forbids the race of Jacob to eat ſwine's fleſh. Accordingly the Apoſtles, when the queſtion was debated, whether the Gentile converts to Chriſtianity ſhould be bound by the precepts of the ceremonial law of Moſes, obſerve, "Now, therefore, why tempt "ye God to put a yoke on the neck of the diſciples, which neither we nor our fathers were able to bear."

Tythes were, however, a yoke of too much importance for the good of the Romiſh clergy to be allowed to reſt in this way; and no ſooner were corruptions begun to take place in the early Chriſtian church, than the clergy made uſe of the threatenings of the Jewiſh law, to compel their Chriſtian flock to be tythed. The ſtratagems they fell upon for this purpoſe, when hardly one of the laity of Europe could either read or write, may be gathered from their own repoſitories of Monkiſh Latin; and were ſucceſsfully practiſed in the ages of darkneſs and ſuperſtition.

Monteſquieu is of opinion, that the Emperor Charlemagne was the firſt that eſtabliſhed tythes in the Chriſtian world; but in this I think it is probable he is miſtaken, for in a letter wrote by Saint Hieronymus to Damaſus, who was Biſhop of Rome as early as 366, he ſpeaks of tythes as a thing from which he had his living; and this Saint made a celebrated diſcourſe, which is extant, upon the payment of tythes, from the third chapter of Malachi, verſe 7. and ſeq. There is a ſermon of St. Auguſtine alſo extant upon the ſame ſubject, wherein he brings forward and enforces the rights of Romiſh prieſts to receive tythes, in ſuch ingenious and dexterous terms, that it is not wonderful the ignorant people believed and obeyed.

We have upon record among the *extravagantes communes a diverſis Romanis pontificibus*, a long direction by Pope Boniface the 8th, in the year 1301, to the collectors of tythes, ſpecifying all the particular articles for which tythes were to be demanded; ſuch as for woods, gardens, wine, wheat, and out of perſonal labours and income of every kind.

Tythes are defined, by the pontifical law, to be the tenth part of all moveable goods, which belongs to and is due to God, and which

which he hath inclined to be reſtored to himſelf as a ſymbol of his univerſal dominion, and are payable to the clergy by divine and human conſtitutions. They are more correctly defined by Blackſtone, as follows: "The tenth part of the increaſe yearly ariſing and renewing from the profits of lands, the ſtock upon lands, and the perſonal induſtry of the inhabitants, and due to the clergy." They are divided into two kinds, perſonal and predial; perſonal teinds ariſe from all ſorts of induſtry and buſineſs; predial from all ſorts of fruits, produce, or profit of lands, without deducting any expence of culture.

There was introduced alſo afterwards another diſtinction or diviſion of tythes into parſonage and vicarage. The former are called in the Latin charters in Scotland, *decimae rectoriae*, and ſometimes *decimae garbales*; the latter are called *decimae vicariae*.

The vicar was the prieſt employed by the biſhop or prelate to do the duties of a pariſh church. The prelate ordinarily retained to himſelf the parſonage or great teinds, which were thoſe of corn, viz. wheat, barley, oats, peaſe, &c. and he beſtowed upon his vicar all the reſt of the teinds, as flax, hemp, calves, fiſh, eggs, milk, &c.

Even in the times of Popery, every ſort of tythes that were payable in other Roman Catholic countries were not inſiſted on by the clergy of Scotland. The parſonage teinds were univerſally due and demanded, whereas the payment of vicarage teinds appears only to have been local, and paid in thoſe parts of the country where there was not a ſufficient ſubſiſtence to the clergy, from the tenth of the corn. Therefore it became a rule of law, that the vicarage or ſmall tythes could not be exacted, except where there had been an uſe of payment. By the law of Scotland, the tythe of animals and of things produced from animals, as lamb, wool, milk, cheeſe, &c. has been adjudged to be due, though not accuſtomed to be paid. But flax, plants, roots, with the other product of gardens, are not ſubject to tythe, unleſs uſe of payment be proved. I have never underſtood that any perſonal tythes ariſing merely from labour were due to the clergy by the cuſtom of Scotland, unleſs the tythes of fiſh can be accounted as ſuch.

Upon the reformation of religion in Scotland, all church lands and teinds fell to the Crown, under the burden of moderate ſtipends to the reformed clergy, and a reſervation to them of the parſonage houſe or manſe, and a few acres of land called the glebe, which had belonged to the Popiſh churchmen; and James the 6th, profuſely, and in many caſes illegally, conferred the ſpoils of the church on his favourites and dependents; which lands were erected into temporal lordſhips, the proprietors of which

which, were ſometimes called *Lords of Erection*, and ſometimes *titulars of the teinds*.

To put a ſtop to theſe alienations, by which the revenue of the Crown ſuffered ſo conſiderably, all church property was declared to be annexed to the Crown, and to remain for ever with it unalienably, by an Act of the Scotch Parliament in 1587, excepting the lands that had been already diſpoſed of. Notwithſtanding this ſtatute of annexation, the King continued to make further donations, which produced another ſtatute in 1592, declaring all ſuch as had been made after the act 1587 void, except thoſe that had been granted to perſons who had received, ſince that act, the honour of Lords of Parliament.

King Charles I. ſenſible of the loſs his revenue ſuffered by the donations of his father James 6th, and being deſirous to provide the parochial clergy in reaſonable ſtipends out of the tythes, as they had been at a great loſs to obtain any thing ſufficient from the titulars of the teinds, executed, ſoon after his advancement to the Crown, a revocation of all grants of church lands, or of tythes made by his father to the Crown's prejudice: and the year after brought an action at law for reducing the donations granted before and after the act of annexation.

As perſons of the higheſt rank and diſtinction were parties in this action of reduction, it created great heats and animoſities. Conceſſions, however, were ſoon made on both ſides. But the article the King chiefly inſiſted on was calculated not to ſerve his own intereſt, but to correct the abuſes committed in regard to the drawing of the teinds; and therefore the litigants very readily agreed to refer themſelves entirely to his Majeſty, which they did by a formal ſubmiſſion in 1628.

The abuſes relative to the drawing of tythes committed by theſe titulars of the teinds, or donees of the Crown, principally regarded the proprietors of lands who were liable to pay them teinds. Theſe titulars ſometimes had in view to force the proprietors of lands to buy up the right to their tythes at an extravagant rate, by levying the tythes in an oppreſſive manner. The moſt uſual and natural way of making the tythes effectual, was by the titulars ſeparating the tythe or tenth from the ſtock, or remaining nine-tenths of the crop, after the corns were reaped, and carrying it off from the field to his own granaries. This got the name of *drawn teind*; and was frequently attended with grievous hardſhips on the owner of the ground or his tenant; for every poſſeſſor of land who preſumed, after reaping his corns, to carry off any part of them from the field till the titular had drawn his tythe, was, from the firſt eſtabliſhment of the churches right, ſubjected to ſevere penalties: and the titular

ſometimes

ſometimes from indolence, but moſt frequently with a view of compelling the proprietor to purchaſe the leading of his tythes at an high price, delayed the drawing of his tythe till great part of the crop was rotten. For redreſſing, or at leaſt alleviating this grievance, the tything of corns was, after the reformation, regulated by ſundry ſtatutes, 1606, c. 8: 1612, c. 5: 1617, c. 9. By the laſt of which, the owner of the crop is directed to require the titular or tythe-maſter eight days after cutting the ſeveral kinds of corns therein ſpecified, to draw his tythe in four days after, upon the elapſing of which, he may complete his harveſt. But he is not at liberty by that laſt act, as he was by the two former, to neglect the tythe after having ſet it apart for the titular; he muſt alſo preſerve it from being eaten by cattle for eight days after the expiring of the time contained in the requiſition; which, if he do, he is by the act declared free from ſpuilzie or wrongous intromiſſion. The remedy provided by theſe acts, however, was far from being adequate to the evil it was intended to cure.

Sometimes, indeed, the titular, inſtead of drawing his tythes, was prevailed upon to grant a leaſe of them to the proprietor for a neat yearly tack duty, and ſometimes he accepted of a ſtated quantity of corns, commonly called rental bolls, either in virtue of a written rent roll, or barely by the uſe of payment, which rent-roll, or rental, was preſumed to be the full value of the tythes.

His Majeſty King Charles the 1ſt, by his decreet arbitral upon the ſubmiſſion above mentioned, dated 2d September 1629, and ſubjoined to the acts of parliament of his reign, put an end to all theſe abuſes complained of, in regard to the drawing of teinds. He made it lawful to the proprietors of lands liable in teind, to ſue the titulars of their teinds for a valuation of them, in order that they might never after ſuch valuation be exigible in kind. He made it alſo lawful to theſe proprietors, if they pleaſed, to demand and obtain a ſale of their teinds before commiſſioners named or to be named for that purpoſe by the Crown. Theſe commiſſioners are the judges of the Court of Seſſion, who now ſit every Wedneſday during ſeſſion time, as commiſſioners for the valuation and ſale of tythes, and for regulating the ſtipends due to the clergy.

Where the ſtipend was drawn in kind by the titular, and conſequently might be valued ſeparately from the ſtock, it was, by the decree arbitral, ordered to be valued as its extent ſhould be aſcertained, upon a proof before the commiſſioners; but the King directed a fifth part to be deducted from the teind in favours of the proprietor of the lands, which was therefore called the *King's caſe*. The rate of teind, when it was poſſeſſed by the proprietor

the proprietor of lands, jointly with the ſtock, for payment of a certain ſum or duty to the titular, and ſo did not admit a ſeparate valuation, was fixed at a fifth part of the conſtant free yearly rent of the lands, which was accounted a reaſonable ſurrogatum, in place of a tenth of the increaſe. On payment of the yearly ſums, ſo fixed, to the titulars of the teinds, the proprietors of land were declared entitled to the whole crop.

Where the proprietor wants not only to be free of the delivery of tithes in kind, but inſiſts alſo to buy the teinds of his own lands, the titular is, by the decreet-arbitral, obliged, in almoſt all caſes, to ſell them at nine years purchaſe of the valued teind-duty.

By theſe means, all abuſes that were any way diſagreeable to proprietors of land, in conſequence of their being obliged to pay a tenth part of the income of their property, were completely put an end to in Scotland. And now, it is believed, there is not a proprietor or farmer in Scotland that is any way troubled about the payment of tithes in kind, (or at leaſt that muſt needs be ſo), a burden that is often ſo unpleaſantly felt in her ſiſter kingdom.

Except England, it is ſaid, there is not a country in the world that continues to pay tithes in kind, beſides Spain and Portugal.

The Scotch Preſbyterian clergy have moderate ſtipends allowed to them, generally of from one to two hundred pounds a-year, payable commonly out of the teinds of the pariſh. If they have leſs, it is occaſioned by the teinds of the pariſh, as valued in conſequence of the above-mentioned decreet-arbitral, not being ſufficient to afford a better ſtipend. In ſuch caſes, in general, the Court of Commiſſioners of Teinds, upon the application of the landed proprietors, unite two pariſhes together, and thereby a good ſtipend is afforded to the ſurviving miniſter, and his ſucceſſors in office. There remains, however, a hardſhip upon the preſent incumbents, which ought to be redreſſed. In any caſe where the ſtipend is not ſufficient for maintaining the clergyman in a reſpectable way, the old decrees of the valuation of the teinds of the whole pariſh ought to be opened up, to the effect only of affording a reaſonable ſtipend, and new valuations ſhould be made. This, it is alleged, will, in all caſes, make ſuch a riſe in the valuations of lands, occaſioned by the difference of the money-price of produce, as will allow the clergyman a ſufficiency to live on out of the teinds. If this is not done, the valued teind of moſt pariſhes muſt in time become exhauſted, and inſufficient to maintain a clergyman of any reſpectability. Nor will the remedy of uniting two or more pariſhes always anſwer; for ſometimes pariſhes of too great an extent already have the old valuations of their teinds exhauſted: and the Commiſſioners do not conſider themſelves as entitled to make new valuations; although the mat-

ter ſeems ſo reaſonable, that it is highly probable the Houſe of Peers would not refuſe its aſſent to it.

The Scotch Teind Court, it is believed, alſo, for a conſiderable time, held it as law, that if they had once fixed to the clergyman of any pariſh a ſufficient augmented income, they had it not in their power to increaſe the ſtipend again in the ſame pariſh. That opinion has been got over, and it were to be wiſhed the other matter of old valuations were alſo reconſidered.

When a clergyman applies to the Court of Teinds for an augmentation of his living, the teinds in the hands of a lay titular, when theſe are not exhauſted by his former ſtipend, fall firſt to be allocated to him; and if the titular has let theſe teinds to the proprietor of the lands from which they are payable, in leaſe or tack, the tack-duty falls to be allocated to the clergymen. This ſort is called *the free teinds*. Where the tack-duty falls ſhort, the tack itſelf is burdened, or, in other words, the ſurplus teinds over and above the tack-duty. Where this likewiſe proves deficient, the allocation to the clergyman falls on the proprietors who have purchaſed their teinds; unleſs the titular, by his conveyance to the proprietor, had declared that he warranted his grant againſt future augmentations; in which caſe the teinds of the lands, belonging in property to the titular himſelf, muſt be allocated in the firſt place. Where there is a ſufficiency of free teinds in a pariſh, the titular may allocate any of them he thinks fit for the miniſter's ſtipend. Miniſters' glebes are free from teind, and alſo thoſe lands of which churchmen, in times of Popery, had been proprietors; alſo ſuch as they had feued or ſold to laymen, with a clauſe declaring their right both to ſtock and teind.

Oct. 9. 1802. A. S.

FOR THE FARMER'S MAGAZINE.

Strictures on Farm-Management near London, in Letters from a Gentleman in Scotland to his Friend in England.

LETTER XII.

(Continued from p. 471. vol. 3.)

I AM rather at a loſs to point out the moſt profitable mode of breaking up the old graſs-land for tillage, not as to the general principle, but merely in ſome particular circumſtances, as there are ſome crops grown in your neighbourhood with which I am unacquainted. Perhaps it ought firſt to be paired and burnt, that followed by a crop of rape allowed to ripen its ſeed,

and the rape ſucceeded by oats. In this country, we ſhould only take a crop of oats, without pairing and burning, and without rape. Not pretending to any knowledge of the other practice, I ſhall confine myſelf to the one I know.

I muſt, however, here mention, that, in my opinion, your pairing-plough cannot anſwer the purpoſe effectually, unleſs the ſurface of the land it has to pair is level like a bowling-green. Every inequality, of which your meadows have abundance, will either make the ſhare get far too deep, or cauſe the wheels to ſtart it out of the ground altogether. In fact, I obſerved a good deal of land, in the courſe of my journey, that had been very imperfectly paired; owing, as I ſuppoſed, to the inadequate action of a ſimilar pairing-plough. When ſuch is the caſe, the advantages of pairing and burning muſt be, in ſo far, loſt to the land.

Beſides converting all the vegetable matter in the paired ſurface into an active manure, one of the great advantages of burning is the deſtruction of the roots and ſeeds of weeds, and it thus becomes an excellent preparation for clean huſbandry, when effectually performed. But every part of the ſurface that happens to be miſſed muſt become ſources of future ſupply of weeds, by both roots and ſeeds remaining undeſtroyed. In this view, therefore, the ſmall original ſaving of hand-labour, by pairing imperfectly with a plough drawn by horſes, inſtead of performing the operation in an effectual and complete manner with the breaſt-plough, as it is called, or pairing-ſpade, turns out eventually a real and heavy loſs. If, therefore, you ſhould pair your land, and ſtill chooſe to employ the pairing-plough, I would ſtrongly recommend that the whole ſhould be carefully gone over afterwards, and every morſel of ſod, that has eſcaped the plough, turned over with the pairing-ſpade.

I ſhall now ſuppoſe your old graſs-land broken up in either way. If paired, I would follow the rape-crop with a perfect fallow, dunged for wheat. If it is not to be paired, I would ſow oats, after once ploughing, and make a perfect fallow ſucceed the oats.

On this kind of land, inſtead of the Angus oats, recommended to be ſown on the old tillage-lands, in my former letter, I would adviſe to get ſome of the very beſt Poland oats from the London market. Theſe, on ſtrong rich ſoil, are very prolific, and they ſell at a high price in London. Beſides they ripen earlier than almoſt any other grain, which is a very great advantage on a large farm, as it brings on the harveſt in regular ſucceſſion, inſtead of the whole coming forward at once. In ſowing Poland oats, it is neceſſary to give a good deal of ſeed; as they do not plant out nearly ſo much as the other kinds. In reaping them, it is ne-

ceſſary to cut them before they ſeem thoroughly ripe; as they are extremely apt to ſhake out from winds, or even in handling during harveſt, if allowed to ſtand too long. They are known to fill and harden in the ſheaf after they are cut: Proverbially, they ripen during *nine* days in the ſheaf.

After the oats, or rape, the land muſt get a perfect fallow, well dunged for wheat. After which it muſt have alternate crops of drilled beans or clover hay, with wheat, or barley, or oats, judiciouſly interpoſed. And on every occaſion, eſpecial care is to be taken to clean the land thoroughly from weeds, and to preſerve it ſo.

I know that ſoil like yours, which has been very long in graſs, paſtured by ſheep, and after having been once very thoroughly cleaned from weeds, by a perfectly well-conducted fallow, may grow wheat and drilled beans alternately, for a conſiderable time, to great advantage, on condition that it gets a decent dreſſing with dung once every four years.

If rape has been taken at firſt, after pairing and burning, I ſhould not be diſpoſed to interpoſe wheat ſo often in the ſucceeding rotation, as when the land has been broken up with a crop of oats only. In the caſe of rape, I would adviſe to ſubſtitute barley in place of wheat.

When barley is to be ſown, the land ought to be reduced into very fine tilth, in the following manner. Having been ridged up before winter by a gathering-furrow, and all the water-furrows and croſs-trenches carefully opened out, it is to be ploughed in early ſpring, with a cleaving-furrow, to lay the land level; it is then to be croſs-ploughed, harrowed, and rolled, and immediately afterwards ploughed end-long with a gathering-furrow. The ſeed is then ſown and harrowed in: and, before the harrowing is finiſhed, red clover-ſeed is to be ſown. Then the water-furrows and croſs-trenches are formed, the whole field laid even by a ſmooth roller, and the water-drains opened carefully by the ſpade.

The mixture for hay-ſeeds, which I would recommend on your ſoil, is, half a buſhel of clean London rye-graſs, and from ſixteen to eighteen pounds of red clover-ſeed to each acre. One crop of hay only is to be taken, and the after-math paſtured with ſheep.

As I am altogether unacquainted with the cultivation of ſaintfoin, or cinque foil, and beſides do not know whether it might thrive in your ſoil, I have not preſumed to take that crop into conſideration. I am informed that, in ſome places, it is mixed, to great advantage, among the hay-ſeeds. In that caſe, the firſt year's produce is a luxuriant crop of clover-hay, with a little ſaintfoin among it. The ſecond year gives a mixed crop of clover and ſaintfoin; and, in the third year, the clover is moſtly gone, and the field

field is fully ſtocked with ſaintfoin. I ſhould not, however, adviſe ſaintfoin to be much truſted to on your land; as I underſtand its appropriate ſoil to be that which is incumbent on a limeſtone gravel.

Upon the whole, the ſyſtem, of rotation which I would recommend as the moſt adviſeable for improving your old graſs-land, is as follows. 1ſt year, Break up the hay for a crop of oats. 2d year, Give the land a perfect fallow, well dunged, and ſow wheat before winter. 3d year, The land is occupied by the wheat crop, and the ſtubble is ploughed before winter, as a preparation for the enſuing crop of beans. 4th year, Beans drilled, horſe-hoed, hand-hoed, and carefully weeded: The bean-ſtubble ploughed before winter, previous to the enſuing crop of barley. 5th year, The land gets three ploughings, as formerly directed, and is ſown with barley and hay-ſeeds. 6th year, One crop of hay is cut, and the after-math is paſtured: or the after-math may be dunged and ploughed down for wheat. 7th year, The one year's lay is ploughed once for a crop of oats, or the land is under a crop of wheat. If a ſufficiency of dung can be ſpared, without robbing the regular fallows of the farm, and if there is no abſolute neceſſity for the after-math in paſture, the wheat may very properly be taken in this year. In either caſe, the ſtubble muſt be ploughed up before winter, preparatory to the ſubſequent fallow. 8th year, The land gets a perfect fallow, and is ſowed with wheat, well dunged. After this crop of wheat, in the ninth year of the rotation, either the ſame courſe goes round again, or, what I conſider as more adviſeable, the land is thrown into the courſe of rotation recommended for improving the old tillage-lands. In the latter caſe, the land in future is to be kept under theſe two rotations alternately.

If the land has been broken up from old graſs, by pairing and ſod-burning, the courſe I ſhould recommend is very ſimilar to the foregoing, as follows:

1ſt year, Sod-burning, ſown with rape. 2d year, Rape, the ſtubble ploughed before winter. 3d year, Perfect fallow, dunged and ſown with wheat. 4th year, Wheat, the ſtubble ploughed before winter. 5th year, Drilled beans. 6th year, Barley, with hay-ſeeds. 7th year, Hay; the after-math paſtured, or dunged and ploughed down for wheat. 8th year, Oats or wheat. 9th year, Perfect fallow, well dunged for wheat; and ſo round again, but without the ſod-burning or rape: Or rather, as before recommended, commencing one courſe of the rotation already pointed out for the old tillage-lands.

After the two kinds of land have been brought to an equality, by each having undergone the courſes of rotation above recommended,

mended, they may be thrown together, and the whole farm may then be carried on under a uniform courſe of rotation, compounded of the two kinds taken alternately, or what may be termed a double ſhift. By this means the ſoil will be continually preſerved in full productive vigour, and its fertility will be always exerted to the greateſt poſſible advantage.

In this ſecondary courſe of rotation, after the lands have been brought into full order, reſpect muſt be had to the general convenience of the farm-buſineſs, ſo as not to accumulate too much work in any particular year, and always to have a convenient proportion of the whole in hay for winter fodder, and in paſture for keeping the ſtock in ſummer.

I think I ſee you ſmile, while you read this long-extended plan of operations, as being calculated, like an entail, to tie down future generations, according to the ideas of the preſent race. In the length of time this courſe of huſbandry will take to go through, you will moſt properly object, that improvements in agriculture may occur, ſufficient to alter all our preſent views and ideas. This is moſt certainly true: But, in all operations, we ought unqueſtionably to ſet out upon ſome regularly-arranged plan, previouſly contrived to the beſt of our ſkill; and this muſt be afterwards modified, altered, and amended, as circumſtances ariſe, or as farther experience and improved judgment ſhall guide.

I by no means incline to fix you to the liſt of crops which I have propoſed, and mean only to ſhow diſtinctly the general principle, according to my beſt judgment in the matter, by which two crops of what is called *white corn* ſhall never ſucceed each other, but ſhall always have either a perfect fallow, a fallow crop, a green or herbage crop, or paſture interpoſed. The general principle upon which I proceed is this, that paſture is invariably to be made ſubſervient to *tillage*; to freſhen and ameliorate the ſoil, but never perſiſted in ſo long as to run the ſoil into weeds, inſtead of profitable paſture-plants: and, reciprocally, *tillage* is as invariably to be made ſubſervient to paſture, by extirpating weeds from the ſoil, but never continued ſo long as to exhauſt its vigour, either for ſubſequent paſture, or for after-tillage-crops. By this plan, the two modes of occupancy of land, tillage and paſture, are made to yield the greateſt poſſible profit to the occupier: And, by conſtantly keeping up the productiveneſs of the ſoil in full vigour, it is likewiſe the beſt poſſible mode of managing land for the benefit of the proprietor; as land which is perfectly clean, and in perfect vigour for vegetable production, will always draw its full rental-value when offered for tenantcy. Yours, &c.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Modern Improvement of Farm Stock.

SIR,

I obſerved a few weeks ago, in all the Edinburgh newſpapers, a high panegyric paid to Mr Brodie, at Upper Keith, "for the "amazing expence and trouble he has been at, in improving his "breed of ſheep, by giving one hundred guineas for twenty ewes, "fifty and eighty guineas for the hire of a ram, and having in "his poſſeſſion a grandſon of the famous Leiceſterſhire ram, which "was let to this country at no leſs a ſum than three hundred "guineas per ſeaſon: and that our butcher-markets have often "ſtood indebted to Mr Brodie, who was the firſt perſon that in-"troduced the feeding of houſe-lamb into Scotland." Such puffing will, no doubt, prove extremely diſagreeable to a perſon of Mr Brodie's modeſty and good ſenſe, as he never fed what is called houſe-lamb in his life; nor has there been a ſingle carcaſe of houſe-lamb to be ſeen in the Edinburgh market for many years paſt. I believe houſe-lamb was firſt fed in Scotland by the late Mr Preſident Dundas, principally for the uſe of his own table; it being well known, that this gentleman gave equal ſatisfaction, when preſiding at the feſtive board, as on the bench of juſtice. Robert Wight, farmer at Murrays, in Eaſt Lothian, afterwards attempted to introduce them into the Edinburgh market, as a regular branch of buſineſs, but complained that the citizens of Edinburgh did not underſtand good eating well enough, and therefore would not give a ſufficient price, to indemnify the expence of fattening lamb entirely upon milk in the houſe. It is a certain fact, that a quarter of his lamb, ſo fed, weighing eight pounds, completely fat, and its fleſh as white and delicate as any chicken, could, at that period (about twenty years ago), bring no more than 2s. 6d. per quarter; on which account, after trying it one ſeaſon, he wiſely gave up the trade, as all the old reputable butchers in the Edinburgh market can teſtify. It is no doubt true, that Mr Brodie, ſome time ago, bred *early* lamb for ſupplying the Edinburgh market; but a quarter of this early lamb, weighing, perhaps, 2¼ or 3 lbs. no more reſembled the houſe-lamb I have mentioned, or what is brought every day to the London market, than the leg of a cat, or calf brought to light, in the Cæſarean operation, by the butcher's knife, reſembles a quarter of Strathaven veal, when fed in the beſt ſtyle; nor can it be ſaid that Mr Brodie was the firſt who introduced early lamb; for it was ſold by Deacons Cumming and Mellis, in the Edinburgh market, long before he entered upon buſineſs.

If

If Mr Brodie has merit for introducing a fine high-priced breed of ſheep, upon his farm at Upper Keith, it ought alſo to be known, that many other people, in Eaſt Lothian and Berwickſhire, have purchaſed ſtock at equal high prices, and, ſhould the mania for fine breeds, which at preſent rages in England, extend into Scotland, and the gentlemen and farmers catch the infection, there is not a doubt but that it will turn out a profitable concern to all theſe gentlemen. Who, however, but thoſe who are intereſted in turning this faſhionable folly to advantage, can hear of the extravagant prices given for rams, ewes, bulls, &c. without laughing at the folly of mankind? For Nature, diſtributing her gifts with a more equal hand, by no means countenances ſuch diſparity in value amongſt individuals of the ſame ſpecies. Theſe, therefore, who give 50, 100, or 300 guineas for a ram or a bull, may be juſtly ranked with thoſe who give ſimilar ſums for a tulip-root, auricula, or Queen Anne's farthing, and make the purchaſe with the ſame view, either to feed their vanity, or advance their intereſt.

Do theſe modern reformers of ſtock, with all their art, advance the intereſt of the public? or are our butcher-markets indebted to them, ſo as to have their mighty deeds puffed off in newſpapers, and their names tranſmitted to poſterity, as benefactors of their country? I ſuſpect not. Does the Leiceſter ram, or his grandſon, get ſtock, producing wool, that can be manufactured into broad cloth, of all the glowing colours of the rainbow, when reflecting the glories of the meridian ſun? No: Alas, almoſt when white-waſhed with the fumes of burning brimſtone, as a modeſt covering to the beauties of nature, it can only be wrought up into a raw blanket, or flannel petticoat, which the unhallowed finger muſt not touch, nor the eye look upon. Do they get ſtock, whoſe fleſh is more tender and delicate than that of the ſmaller native breeds of our iſland? By no means: Their carcaſes contain a ſmaller quantity of fleſh in proportion to the fat, and that fleſh is more muſcular, and coarſer grained, and conſequently not near ſuch delicate eating as the fleſh of the ſmaller animals. Wherein, therefore, does the excellence of this fine, high-priced breed of ſheep conſiſt? In having their ſurfaces covered over with a thick coating of oleaginous fat, like a ſeal or a porpoiſe, which cannot be eaten by any man of taſte, and is only fit to glide down the throat of a Newcaſtle coal-heaver. I have not a doubt, when this *improved breed* is brought to perfection, and becomes general, that the fat will be cut off from the ſurface, before the carcaſes are brought to the butcher-market, and barrelled up for the purpoſe of making ſoap and candle, as the blubber is cut off from the ſurface of the whale. How different from this is the delicate fleſh of the ſmall South Down ſheep, or thoſe of the Cheviot hills; the firſt, well adapted for thriving in the

the ſuperior climate and paſtures of England, and affording wool, for working up into the fineſt fabrics of broad cloth; the other, a more hardy race, of all others the beſt ſuited for improving the ſheep and wool on the mountains of Scotland, alſo carrying wool, which can be manufactured into excellent cloth. A wedder hog, of the Cheviot breed, bred upon one of the mountainous farms belonging to the Duke of Buccleugh, was ſome time ago ſlaughtered for family-uſe, after being grazed for twelve months in the low country, without, however, taſting turnips, or any thing but graſs, during the winter, and ſpring months; and when killed, weighed 13½ pounds per quarter, and had in him 15½ pounds of tallow; a moſt extraordinary quantity for ſo ſmall a ſheep, of little more than a year old. This, however, will be nothing thought of by the modern reformers of ſtock, who, upon all occaſions, puff off their improved monſters, of 20, 25, and 30 pounds the quarter, with their ſurface coatings of fat, many inches thick, like a ſeal or Hampſhire hog. But are our butcher-markets indebted to theſe ſea-calves in ſheep's clothing? No. Would the gods of Iſrael, Mr Pitt, or Mr Dundas, reliſh them, even if ſtewed in claret or burgundy? No. Do the butchers commend them? No. On the contrary, they celebrate the native beauties of the black-faced ſheep, bred on the mountains, and fattened on the plains of Scotland, as ſurpaſſing all the improved breeds yet introduced: and, in this chorus, will join every judge of good eating, and adept in the ancient ſchool of

Oct. 1802. EPICURUS.

Remarks on the above Paper,

BY THE CONDUCTOR.

THIS Magazine is "open to all parties, and influenced by none;" therefore, though we entertain the higheſt reſpect for the gentleman whoſe ſyſtem is animadverted upon, we have given the above animadverſions a place, and will, with equal pleaſure, receive any anſwer from Mr Brodie or his friends. Our worthy correſpondent has certainly conſidered only one ſide of the queſtion, and we ſhall ſupply his deficiency.

With regard to the feeding of houſe-lamb, we believe our correſpondent is in the right, therefore paſs over that branch of the animadverſions; but, reſpecting the merit of the improved breed of ſheep, *i. e.* thoſe of the Leiceſter ſort (for they are all derived from the breed of Mr Bakewell), we are not ſure if he has conſidered the ſubject in a true farming point of view. That they

are not ſo agreeable to the epicure's palate, we concede; though we by no means allow this to be the criterion which ſhould determine the merits of the matter.

To a farmer, the ſureſt evidence of the goodneſs or badneſs of any ſyſtem is the value or profit that may be derived from putting that ſyſtem in execution, not the quality or richneſs of the article that is produced. According to this principle, the comparative value of any two breeds of ſheep depends upon which will return the greateſt price for a given quantity of food. That the new Leiceſter breed are, in this reſpect, preferable, is now agreed upon by three fourths of profeſſional people; and, though the diſciples of Epicurus may condemn them, not in reſpect of profit or loſs, but merely becauſe they are not ſo ſavoury to their appetites, we apprehend their ſentence is irrelevant in the deciſion of the main queſtion.

That the intrinſic value of rams and ewes of this breed is greatly below the ſums for which they have been ſold, and that much quackery has been practiſed in the arrangement of ſales, are very probable circumſtances; but we are inclined to think that theſe things prevail in every new trade, and will be given up whenever the articles come into more general uſe. The value of any thing, to be ſure, is juſt exactly what it will bring; and ſo long as no improper means are uſed, every man has a good right to diſpoſe of his articles at the higheſt rates the ſtate of the market will admit.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Query concerning the Culture of Moſſes.

SIR,

HAVING a large tract of peat-moſs, which I am deſirous to improve, I ſhall be much obliged to you, or any of your correſpondents who have improved ſuch ſoils, or who have obſerved the improvement made by others, for an account of their mode of culture; and I particularly requeſt it to be mentioned, whether lime is conſidered as neceſſary, as I cannot command ſuch manure at a moderate expence. If my informer will be pleaſed to acquaint me where I can ſee ſuch improved moſſes, his precepts will be the more acceptable.

It ſeems proper, however, that I ſhould mention, that I have ſeen an account of the improvement of the moſſes at Swindrigmuir; but as lime is there conſidered as eſſential, that mode of culture does not ſuit me.

NOVICE JUNIOR.

FOR THE FARMER'S MAGAZINE.

A ſhort Abridgement of Elkington's Treatiſe on draining Land.

As Mr Elkington's work upon draining land is a large 4to, with plates, at an exorbitant price, which few farmers may be diſpoſed to lay out, I have made the following notes from it, which ſeem to contain the ſubſtance of the book.

Introduction, page 3d. The *rot*, that deſtructive malady among ſheep, chiefly proceeds from the nature of the herbage, which too much noxious moiſture produces; and as it is a diſeaſe hitherto deemed incurable, it can only be *prevented* by means of draining. (See the method he propoſes afterwards.)

Exhalations from moſs and marſhy grounds increaſe the humidity of the climate, and make the harveſts late and precarious.

Page 8. Account of the moſt approved method.

Draining depends upon *three* points. 1ſt, Upon finding the main-ſpring, or cauſe of the miſchief, without which nothing effectual can be done. 2d, Upon taking the level of that ſpring, and aſcertaining its *ſubterranean bearings*, a meaſure never practiſed (it is aſſerted) till Mr Elkington diſcovered the advantage to be derived from it;* for if the drain is cut a yard below the line of the ſpring, you can never reach the water that iſſues from it, and, by aſcertaining that line by means of levelling, you can cut off the ſpring effectually, and conſequently drain the land in the cheapeſt and moſt eligible manner. 3dly, By making uſe of the augre to reach *or tap* the ſpring, where the depth of the drain is not ſufficient for the purpoſe

Page 17. The great object of Mr Elkington's ſyſtem is, that of draining bogs, by cutting off entirely the ſource of the ſprings, or ſubterraneous water, that cauſes the wetneſs, either by flowing over the ſurface, or by being long confined under it. If the ſprings have a natural outlet, the object of the drain is to lower and enlarge it, which, by giving the water a more free and eaſy channel, will ſooner diſcharge and drain it off, or will reduce it to a level ſo far below the ſurface, as to prevent its overflowings: Where the ſprings have no apparent outlet, but are either confined ſo far below the ſurface, as to injure it by continued moiſture, or by oozing out imperceptibly by any ſmall pores of the upper ſoil; the object of the drain is to give a proper vent to the water, and

* It is ſaid Dr James Anderſon, late of Edinburgh, had publiſhed an account of this ten years before. That others had practiſed it in the Lothians; although, on this idea, Mr Elkington got a large premium from the Board of Agriculture. As Elkington was merely a labourer, and no ſcholar, I believe it was a diſcovery to him, though others had hit on the ſame: Whether he alone ſhould have been rewarded is the queſtion.

to extract more quickly and effectually what has before been pent up in the bottom of the ſoil. The object of the augre, which, in many caſes, is the *ſine qua non* (the indiſpenſable requiſite) of the buſineſs, is ſimply to reach or *tap* the ſpring, and to give vent to the water thus pent up, when the depth of the drain does not reach it; where the level of the outlet will not admit of its being cut to that depth, and where the expence of cutting ſo deep would be very great, and the execution of it very difficult.

Page 19. Springs riſing in a regular line, along the upper ſide of a wet ſurface. Make ditch along the lower level of the *ſtrata* containing them, another thence to a brook.

Page 20. Spring-bogs. Drain cut along the level of the lower ſpring, and another to a brook.

Page 23. It is of material conſequence to aſcertain which of the different outlets, that may appear on the ſurface, is the main-ſpring or throne from which the outlets are ſupplied; for, by cutting off that, the others become dry. If on the bank, or ſloping ſurface, from whence they proceed, they are found to break out at different levels, according to the wetneſs of the ſeaſon, and if thoſe loweſt down continue running, whilſt the above are dry, it is a ſure ſign that all the different outlets are connected with and proceed from the ſame ſpring; and along the line of this under one ſhould the drain be directed, which, if properly executed, all thoſe above will continue dry. This is called the main-ſpring, and all the reſt, overflowings of it. The reverſe having been formerly uſed, only carried off the overflowings. But it frequently happens that the uppermoſt (if the ſtrongeſt outlets) are the main-ſprings, and thoſe below only leakages; therefore caution is neceſſary.

Page 27. Where a drain carried on a level is in ſome places below the ſprings, make little drains up to them.

Page 28. In a high porous-bank, with ſprings down the two ſides, drain down the middle from the main-ſpring to a brook at the bottom, and bore with augre holes.

Page 47. In draining a hill, compoſed of alternate beds of rock and clay, make different drains acroſs, at different heights, through the wet ground, to communicate with one from the upper wet ground.

Page 71. Drainage of ſoils, porous above, and retentive below, ſeems to be done by a large drain, in the moſt convenient place, and clearing the furs well, to ſerve in place of ſmaller ones.

Page 167. On ſheep-paſture; a very ſimple method of carrying off ſurface-water, by means of a ſtrong common plough, may be effected in this manner: After turning up furrows through the hollow parts of the field, where the water is apt to ſtagnate, let a man with a ſpade pair off the looſe ſoil, leaving the inverted ſod, or graſſy

graſſy ſide, about 3 inches thick. This done, let him turn over the ſod into the furrow, graſs-ſide up. By this, a canal of 3 or 4 inches will be left in the bottom of the furrow, ſufficient to diſcharge a conſiderable quantity of water, which will readily ſubſide into it.

SCOTUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Query as to taking the Tar out of Wool.

SIR,

IN Mr Naeſmith's ſurvey of the ſheep-counties of Scotland, and report as to the ſtate of ſheep and wool, he mentions, that, at Galaſhiels, they have a method of taking the tar out of the ſalved or ſmeared wool, but he does not ſay how it is done. This *receipe*, in my opinion, would have been of more general uſe, if he had given it, than all his report. If you, or any of your correſpondents, know it, it would be of public utility to communicate it. I have indeed heard of a recipe, but it is from uncertain authority, and I ſomewhat doubt of its permanent efficacy.

A———N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Emigration, and the Means of preventing it.

SIR,

As a ſpirit of emigration to America is beginning to ſhow itſelf, I think it a duty to the public to point out by what means the poorer and more ignorant were formerly kidnapped, or trepanned into it, and what way they were afterwards uſed.

Every thing ſpecious was held out to thoſe who would go to America, by perſons intereſted to get as many to emigrate as poſſible: they were inveigled into a contract, or indenture, in the Engliſh form, ſufficiently binding and actionable by the laws of America; the terms of which were, that if they paid a certain ſum on landing, the indenture was void. It was, however, taken care of they ſhould be perſons who were in no danger of paying that ſum: If they did not, they were to ſerve the perſon they indented with, or his aſſigns, for a certain number of years. The indenture was very plauſibly worded, to prevent ſuſpicion; and every legal form obſerved. Upon their landing in America, however, and not paying the ſums mentioned in the indentures, they were

were driven, like as many Scots or Iriſh bullocks, to market, and ſold, like ſlaves, to the higheſt bidder, for the time mentioned in the indentures. What became of them afterwards, God only knows: The poor and the oppreſſed have no biographers. But as the perſons who carried them out were not obliged to account for them to any perſon here, they muſt, at the expiry of the term, have been much in the mercy of their oppreſſors. Now that ſlaves from Africa give L. 80 a head, it is clear, this kidnapping of white people, in the Highlands of Scotland, and in Ireland, will be practiſed with avidity. I am not clear, however, but that a perſon ſeducing away Britiſh ſubjects might be proſecuted, or obliged to deſiſt, and bound over to his good behaviour, as, by the laws of God and of nature, the ſtealing and ſelling the ſubjects of any ſtate is highly puniſhable. Thus, by the Jewiſh law:—"He that ſtealeth a man, and ſelleth him, or if he be found in his hand, ſhall "ſurely be put to death *." So, likewiſe in the civil law (which, let it be obſerved, is held to be the law of Scotland, where our own is deficient), the offence *of ſpiriting away* and ſtealing men and children, which was called *plagium*, and the offenders, *plagiarii*, was puniſhed with death; *Tit.* 48. 15. 1. This (ſays Judge Blackſtone) † is unqueſtionably a very heinous crime, as it robs the king of his ſubjects, baniſhes a man from his country, and may, in its conſequences, be productive of the moſt cruel and diſagreeable hardſhips; and therefore the common law of England has puniſhed it with fine, impriſonment, and pillory. On the other hand, no ſuch contract can be actionable here againſt the perſon engaging to emigrate, becauſe it is founded on fraud, or dole, a contrivance or machination to deceive; which is a ſufficient defence. At any rate, it is every perſon's duty, who either loves his country, or has any humanity, to point out to thoſe, who are in danger of emigration, the bad ſucceſs they may lay their account to meet with.

A great deal of excellent poetry has been compoſed, to prove that the opulent proprietors building fine houſes, and making beautiful policies, ſetting large farms, and introducing better farm-management, have cauſed emigration. This I, in plain proſe, very much doubt: and if I had the ſame poetical talents, I could give a deſcription of many fine new villages, almoſt entirely erected within theſe 30 years, by perſons fond of building fine houſes, &c. for themſelves; in which a court-houſe, without attornies,—a cotton-mill,—a church, where there was none before,—an academy,—a daily poſt and a coffee-room, would make no deſpicable figure: In addition to all which, labour for every perſon who inclined

* Exodus xxi. 16.

† B. iv. c. 15. § ult.

cline to work. Indeed, from obſervation I have ever found, that, where a rich man fixed his reſidence, there was immediately a greater number of houſes near * it, than were on the ſame ground before this happened. The gardener had a wife, as had alſo the herdſman and ploughman; it was not convenient to want a ſmith and a joiner for any length of time, thoſe had families. One reaſon, or another, ſoon occaſioned a number of cottagers, who made part of their living from the ſuperfluities of their wealthy landlord, as there was always ſomething to do, of one kind or another. To pull down a wall, or to build one;—to dig a pond, or to fill up an old one;—no matter what, it created work, it gave bread to the induſtrious. This could not cauſe emigration. The fact is, one of the beſt methods of preventing it is, the landholders to improve their lands. Caſes have been known of ſelling half a large eſtate, and, by improving the remainder, keeping up the rental. One of the greateſt improvers in the kingdom, whenever he finds a piece of land gives little rent, he ſets a number of perſons to work in improving it, at his own expence, and, in a few years, generally makes it worth three or four times the rent, for a permanency. In fact, there are three unqueſtionable principles in improvement of land. 1. Land cannot be improved without induſtry. 2. The earth will always be productive, in proportion to the induſtry beſtowed upon it. From whence a 3d is deducible, that every place may ſupport its inhabitants, if they are induſtrious, and that induſtry prudently directed.

Another method of preventing emigration is, to encourage manufactures. To feu villages will do no good, unleſs work is alſo found for the inhabitants. There are already a great many carding-machines; let the proprietors aſſiſt the perſons concerned in theſe in building; let him get ſome ſpinning-machines and dyers collected: Here is a woollen manufactory at once. If theſe perſons cannot afford the expence of the neceſſary machinery, let the landlord give it *in ſteelbow*—an antiquated farming term, for receiving ſo much at entry, and leaving the ſame, or a like quantity, at removing. Let another place engage in another branch; a cotton-mill, for example; a ſeaport in fiſhery, and ſo on. Give encouragement to a few individuals, who are manufacturers at firſt, and to a joiner, a ſmith, a dealer in groceries;—one thing leads to another. People collect; money is brought into the country; and emigration knocked in the head. The conſequence alſo is, that all theſe people want land, for "their baſket and their ſtore, *kail and po-*"*tatoes* †;" and for their cows, that they may have milk, for which

* The Deſerted Village, and the Emigrant.

† Burns.

which they can well afford to pay. Thus the induſtrious are provided for, and the rich increaſe their gains; every cauſe for emigration to other countries is removed, and the proſperity of the country advanced.

ANTIPLAGIARIUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Anſwers to Queries on Vegetation.

SIR,

IN the 11th Number of your very uſeful publication, you ſubmit a ſet of queries on vegetation to your readers and correſpondents, and ſolicit anſwers to the important queſtions put. As I am a ſincere friend to every agricultural and horticultural purſuit, I have ventured to offer anſwers to moſt of them, at leaſt ſuch as I have had occaſion to turn my mind upon, in the courſe of practice.

I humbly ſubmit them to your diſpoſal, if you deem them worthy of a place in your magazine; and am, Sir, yours, &c.

Aug. 28. 1802. W. N.

I. *Concerning the Earth.*

Anſ. to Query 1. Supporting them in a proper poſition; receiving, retaining, or communicating moiſture, and other matter, for their nouriſhment; receiving and reflecting the rays of the ſun, dews, and exhalations; thereby forwarding their growth and perfection.

2. Anſwered above.

3. Moſt certainly. I do not know any plant that will not grow in different ſoils by conſtraint; but none will thrive in a ſuperlative degree, except in that which is peculiarly adapted to its nature.

4. By proper cultivation of the given ſoil, I think not. Even irony till, which is thought to be the moſt inimical of any to vegetation, can, by proper management, be made productive of uſeful plants.

5. Yes; generally thoſe that are termed ſucculent, as the cactus and euphorbia, in an exotic ſtate; and certainly every plant in an indigenous ſtate, as the heath, the juniper, the fox-glove, &c.

6. Becauſe certain plants exhauſt the ſoil faſter and more than others, and that one plant will thrive, where another only exiſted.

7. Nutritive matter, moiſture, &c.

8. Calcareous earth, as lime, chalk, or marl; clay and ſand; in

in this proportion, or nearly: clay, $\frac{4}{8}$; ſand, $\frac{1}{8}$; calcareous matter, $\frac{1}{8}$: judiciouſly manured with dung, or dead vegetable matter.

11. Certainly.

12. Adding a ſufficient quantity of adheſive matter, if too porous.

13. Moſt generally; but there may be ſome pernicious metallic ſubſtance alſo in the ſoil, and which may co-operate in cauſing ſterility.

14. When new digged or ploughed, if in a moderately dry ſtate.

15. In a very great meaſure, if not buried too deep.

16. Not altogether, but partly.

17. Expoſing it to the ſun's rays in part, by throwing it into a large lengthened heap, whereby it is alſo partly ſhaded, and turning it over once in two or three months, will ſooner reſtore it to fertility than any other proceſs, excluſively of adding freſh matter. The oftener the ſurface is encruſted with froſt, and the freer it is kept of weeds, will be the more aiding to this deſirable purpoſe.

18. Yes; becauſe otherwiſe the ſeeds of many annual and biennial plants are found to degenerate.

19. Soil of a free open texture, and moderately rich. Becauſe all ſeeds vegetate, and all plants ſtrike root beſt in a lightiſh ſoil, although by nature they may require a different kind afterwards to bring them to maturity.

II. *Concerning the Air.*

Anſ. to Queſ. 1. An effect ſimilar to that it has on animals, inflation and reſpiration. Alſo, of conveying, or rather containing, part of their food, which it depoſits in the ſoil, to be imbibed by the roots; and part it conveys into their ſyſtem by means of the pores in the bark, leaves, &c.

2. I believe many plants would live, and even thrive, in air that might be fatal to moſt animals; but I am convinced that pure, or at leaſt what we term wholeſome air, is eſſential to the production of wholeſome fruits, pulſe, and grain.

4. Not the whole, part only; that is, plants in general. For, in contradiction to any hypotheſis that I know of, I have to ſtate, that I witneſſed an aloe live for upwards of ſeven years in a ſtate of ſuſpenſion between heaven and earth, without a particle of ſoil about its roots, and without any viſible ſigns of decay or mutability. Its ſituation was ſuch, however, that it was equally a ſtranger to rain, froſt, and the rays of the ſun.

5. I think it does. The nitrous acid of the air, being imbibed by the fallow ſoil, is of infinite advantage in reducing dungs, ei-

ther then or afterwards depoſited in it, into that ſtate of mucilage allowed to be the pabulum, or eſſential food of plants.

6. Partly both ways; but probably the ſoil is alſo benefited by the action of the air, as above ſtated, on account that, in the culture of theſe crops, it is frequently ſtirred and expoſed to the elements.

7. I ſhould think they do.—See anſwer to query 1. of this head.

8. To the firſt clauſe I have to anſwer, certainly; but I think the ſecond clauſe by no means explicit. If it has been *found to anſwer* in France, why put the queſtion in Britain? or, why was it not ſtated whether the trees were abſolutely planted in heaps of ſtones, without any kind of ſoil, or if heaps of ſtones were merely laid round their ſtems on the ſurface of the earth? But I am inclined to think this too much of a *hearſay* ſtory. *It is ſaid to have been ſucceſsfully tried in France.* Many wonderful things ſavour of France!

9. In freſh weather, every day, leſs or more; in ſunſhine, from about nine in the morning to five in the evening, leſs or more, according to the ſeaſon of the year. Even in the time of ſevere froſt, if bright ſunſhine, a little air muſt be admitted, and in ſmaller or greater quantity, according to the hardineſs or tenderneſs of the plants in queſtion. Air ought likewiſe to be admitted and taken off by degrees, *i. e.* the full quantity for the day ſhould not be given in the morning; perhaps only one half or a third, increaſing as the ſun advances in the horizon; taking it off in like manner as the ſun retreats in the afternoon, always obſerving to ſhut up ſeveral hours before ſunſet.

10. Languid, and ultimately periſh.

11. By no means.

12. There at leaſt would *ſeem* to be an antipathy between the artichoke and other plants, as weeds, if ſown ever ſo thick, will not grow *under* them, although they will thrive very well *beſide* them; but perhaps this is owing more to the ſhade, than any inimical quality in the leaves of this plant. It has been *ſaid* that wheat will not thrive within I don't know how many hundred yards of barberry, and nothing more ridiculous could poſſibly have been *ſaid*; for I can aver, for one, that I have repeatedly ſeen as fine wheat as ever grew, in a field encloſed on all ſides with a barberry hedge, in a wild, unclipt, ſhrubby ſtate, and which produced flowers and fruit in abundance. I am as little inclined to think there is ſympathy between plants, except ſuch as a favourite ſoil and ſituation *ſeemingly* begets between ſuch plants as happen to affect one and the ſame. But it might be aſked, Have plants a will, a deſire, or inclination,

clination, to be placed by their friends or lovers; or to be removed to a diſtance from their enemies?

13. Many plants grow well under the ſhade of others; but none grow ſo well as if unſhaded, and in their nativity.

14. Baneful; frequently diſſolution, if ſtruck with the material fire or lightning. But, on the other hand, the growth of many plants is much promoted by the ſultry moiſt heat, frequently attendant on, or following a thunder-ſtorm. The electrical fluid is alſo *known* to be aiding to the growth of plants, by real experiment; that is, by the circumambient air, or what may be called the immediate atmoſphere of the plant, being charged in a moderate degree by the wheel, for ſeveral days together, vegetation has been obſerved to increaſe in a very conſiderable degree.

15. If they are ſituated at a conſiderable diſtance from the ſea, and the ſea-air is mixed with freſh air before it comes into contact with the *lungs* of the plants, or the ſoil wherein they grow, it is attended with little bad, perhaps good, effect; but if they are ſituated on the brink of the ocean, the effects are ſuch, that they are ſtunted, hidebound, and all their juices are contaminated by its baneful influence and aſtringency, more eſpecially while the wind blows from thence.

III. *Concerning Water.*

Anſ. to Queſ. 1. Nouriſhing the root, increaſing the quantity of ſap, and refreſhing the foliage. Water is alſo probably the chief vehicle by which the eſſence of dungs, and other manures, is conveyed into their ſyſtem.

2. Soft, that is, river, rain, or waters that have been expoſed to the rays of the ſun a conſiderable time before application, are favourable; and hard, or waters that are impregnated with metallic ſubſtances, are injurious to vegetation.

3. Very bad for either, if perſiſted in; and more perceptibly ſo, at firſt, on young than old plants.

5. Mornings and evenings, before and after the ſun's heat is violent, becauſe, otherwiſe, it would be rendered of leſs beneficial effect, owing to ſudden exhalation.

6. As long as a tree or plant (*i. e.* the ſtem, branches, or haulm) can be ſaid to be in life, its ſap undoubtedly flows in a greater or leſs degree. For inſtance, cut any part of a vine, birch, ſycamore, oak, &c. in the dead of winter, the juices will inſtantly flow at the wound, although not ſo copiouſly as in the early part of ſpring and ſummer. The circulation is alſo either promoted or retarded *much* by the influence of the climate.

7. Conſiderable quantities both ways.

8. The effect of dew is nearly ſimilar to that of rain, only in

leſs proportion; it nouriſhes the roots, and refreſhes the foliage in a very conſiderable degree, if not ſuddenly evaporated by the heat of the ſun. Cannot ſay to *what extent* it is favourable, much depending both on the nature of the plant and the ſeaſon.

IV. *Concerning Light and Heat.*

Anſ. to Queſ. 1. Giving the natural colour to foliage, flowers, and fruits; making the ſap flow and circulate; increaſing the farinacious matter in grain; and increaſing the ſaccharine matter in, and enhancing the flavour of fruits in general.

2. Yes; but excepting the fungi tribe, I do not know of any whoſe flowers and fruit have been produced in perfection.

3. Moſt certainly.

4. Surely, inaſmuch as grain, raiſed in warm or improved climates, is more rich and productive of *ſpirit*, than that raiſed in cold or unimproved ſituations.

5. It is neceſſary to keep *many* kinds of cuttings *almoſt* in the dark, until they have taken root; and *all* kinds are the better for being ſhaded from the ſtrong rays of the ſun till then.

6. Not always; they are equally liable to periſh becauſe of wet, drought, or froſt, according to their natures.

7. Certainly.

8. In a very conſiderable degree of degradation.

9. Generally more mild, but alſo ſometimes more pernicious. If the ſteam is confined in a flue the ſame as ſmoke, the effect is the ſame. If it is ſuffered to diffuſe, it is ſalutary in a dry, and pernicious in a moiſt climate.

10. If *properly* managed, hot walls have much leſs effect in promoting the growth, than in perfecting the annual ſhoots, of plants placed againſt them; as, by the time artificial heat is applied (which ſhould not be before the middle of July), their vegetative powers for the ſeaſon will be nearly exhauſted. Fire-heat is with propriety applied to flued walls which have no glaſs covering in the autumn, in order to aid nature, in a cold climate, in ripening the ſhoots and buds deſtined to produce the ſucceeding crop of fruit. But the attempt to force fruits on theſe walls in the ſpring has not been generally attended with ſucceſs.

By painting part of a brick-wall black, againſt which one wing of a peach-tree was nailed, and letting that part, againſt which the other wing was nailed, remain in its natural ſtate or colour, it has been aſcertained, that black does very conſiderably abſorb heat, as the fruit on the painted part were ripe ten days ſooner than on the other.

11. I think the Danes extremely right in this practice; and I am convinced

convinced it would be very beneficial in this, and all cold climates. The cauſe of the failure of our fruit-crops is more generally owing to bad weather *coming on the back of good*, in the ſpring-time, than any thing elſe; and if we could keep back vegetation by the above proceſs, or any other, to a better and more ſettled ſeaſon, it would be an important improvement.

12. Yes; and every plant will bend to the light, whatever angle of the horizon it is admitted from. If the rays of the ſun are admitted, it will be the more obedient.

13. Yes; with reſpect to trees placed againſt a wall. With reſpect to trees ſtanding freely expoſed, I do not think they are.

14. I cannot poſitively ſay of all plants; though, judging by analogy, I believe moſt do grow more in the night than in the day, in ſummer particularly. I have found, that vines in a hot-houſe grow moſt in the night, from about the 1ſt of April to September.

15. Yes; but by no means ſo luxuriantly as if protected; nor will the plants continue to flouriſh *as well* for a ſeries of years. Indeed, neither could reaſonably be expected, conſidering that, in this caſe, one part of the plant would be placed, as it were, in Greenland, and the other in the Indies.

V. *Concerning Manures, or dead organized Matter.*

Anſ. to Queſ. 1. By correcting tenacity and poroſity in the ſoil, exciting its fermentation, communicating nutritive matter, and affording nouriſhment to the roots of plants, manures greatly promote vegetation and their perfection.

2. *Firſt*, Vegetable earth of decayed tree-leaves, and of decayed vegetables, of different kinds, mixed together, I have ever found mild, nutritive, and of the moſt ſalutary effect: nor have I ever found that I had applied too much. *Secondly*, Stable-dung, on all heavy loams and cold ſoils, not too much fermented, I have found of good, and on light dry ſoils, unleſs pretty much fermented, of bad effect. *Thirdly*, Cow and hog-dung, on light dry ſoils, I have found to be ſalutary, and the contrary on cold and wet ones. *Fourthly*, Sheep and deers' dung, applied in moderate quantity, has a good effect on all loams, eſpecially thoſe that are tenacious and wet. *Fifthly*, Pigeon-dung, at leaſt a year old, mixed in equal quantity with vegetable mould, I have found of the moſt happy effect, when diſcreetly applied to heavy land, and being buried only two or three inches. *Sixthly*, I have found whin and fern aſhes, mixed with a little good earth, an excellent top-dreſſing to graſs-land of a ſtiff wet nature.—*Seventhly*, A compoſt of coal-aſhes, ſoot, pigeon-dung, and ſea-gravel, wherein was a conſiderable quantity of ſhells, I have found

of

of infinite advantage to a very tenacious tilly clay. *Eighthly*, I have always found ſea-weeds (or ware) a good manure, either as a *ſimple*, or being compounded with dung and earth. *Ninthly*, I have ſeen a very cold, wet, back-lying, clayey field, much fertilized by one dreſſing with the rubbiſh of ſome brick-kilns, which was freely applied, and of which coal-aſhes made a conſiderable part.

3. Much muſt depend on circumſtances; ſometimes in fallowing, but more generally at the time of ſowing or planting; and always when the ground is in a moderately moiſt ſtate.

4. All theſe modes are proper, according to exiſting circumſtances, and the nature of the crop to be manured.

5. By all theſe means, in conjunction with thoſe of retaining moiſture in dry, and expelling it in wet ſoils; alſo, by correcting crudity in, and adding fertility to ſterile ones.

6. Certainly.

7. Compoſt manure is moſt generally to be preferred, particularly if any calcareous matter is to be applied, as lime, marl, &c.

8. A very proper mode of application.

9. By throwing the leaves and haulm of all vegetables into a common heap, and letting them remain till well rotted, then mixing them with lime, aſhes, ſoot, dung, &c. or in the proceſs of collecting them, and watering the whole frequently with the drainings of a dunghill: By mixing the ſcourings of ditches, pond-mud, ſcrapings of roads and pavements, &c. as above: And, by cleaning out the furrows of all paſture-lands every ſecond or third year, mixing it with lime, &c. and applying it as a top-dreſſing.

10. Thoſe of a cool moiſt nature, as vegetable earth, pond-mud, cow-dung, &c. anſwer beſt for dry and abſorbent ſoils; and thoſe of a hot, and more generous nature, as ſtable-dung, pigeon-dung, ſoot, aſhes, &c. for cold wet ſoils.

11. If they have not undergone a proper fermentation, their effects are, giving a rank and diſagreeable flavour to fruits and herbage; and, if an immoderate quantity is applied, of producing a conſiderable degree of unwholeſomeneſs, and tainting the juices of many plants.

VI. *Concerning Culture.*

Anſ. to Queſ. 1. Of producing health and vigour, in a very conſpicuous degree, both on root and branch.

2. Of courſe, yes.

3. Certainly.

4. It is more beneficial for the trees, that an under crop be cultivated amongſt them, than that the ground lie in graſs, weeds, &c.; but, were the ground properly cultivated, *without* an under-

crop,

crop, it would be ſtill more ſo. Potatoes, cabbages, &c. may, with propriety, be cultivated in young tree-plantations, for four or five years, or till the roots of the trees begin to come into contact with one another, but not longer; becauſe, if perſiſted in after that time, the extreme fibrils, which are the purveyors of the plant, might be materially injured.

5. *Firſt*, Of courſe, yes. *Secondly*, The ſoil is alſo much benefited by this ſpecies of fallow.

6. By any proceſs of ploughing, and harrowing, that I have yet witneſſed, no.

7. Much muſt depend on the quality and the ſituation of the land, and the ſtate of labour; the difference of expence may be from 20 to 30 ſhillings per acre.

8. I believe it would, in many caſes; and I am convinced, that, in all caſes where the depth of *good* ſoil is greater, or *beyond the reach* of the plough, trenching with the ſpade, once in four or five years, would anſwer the expectations of the moſt ſanguine.

VII. *Concerning Subſtances in the Earth, injurious to Vegetation.*

Anſ. to Queſ. 1. Metallic, ſulphureous, aluminous, and all aſtringent ſubſtances are inimical to vegetation; and ſoils wherein theſe are found, are more or leſs fertile, according to the quantity of metal, &c. they contain. Their effects on the tender roots of plants, in corroding and cankering them, are ſuch as frequently occaſion decay, ſicklineſs, and diſſolution.

2. Pulverization, expoſition to the elements, and the addition of diſſolvent matter, as lime, chalk, &c.

3. *Firſt*, Yes. *Secondly*, By judicious draining, and afterwards treating it, as above, as the caſe may require. In many caſes, alſo, it is neceſſary, and in all caſes proper, to add adheſive and more ponderous matter in the cultivation of peat-moſs.

4. A mixture of peat-earth, purged of its noxious qualities, with loam, &c. is found generally to ſuit their nature, as more immediately reſembling the ſoil of their nativity. There are many European, and even Britiſh plants, which alſo thrive beſt in this kind of ſoil; and there are many American and other foreign plants that do not.

5. When trees are obſerved to decay, from their roots having reached a cankering metallic ſtratum, I think it is then time to ſtub them up, as I have not been yet able to diſcover a cure; and I had rather ſee no tree than ſee a ſickly one.

VIII.

VIII. *Of Vermin, noxious to Vegetation.*

Anſ. to Queſ. 1. The grub, ſlug, maggot, and mole.

2. The grub, ſlug, and maggot, may be deſtroyed by the application of lime, ſoot, ſnuff and ſulphur mixed, tobacco-water, and by rolling the ground late in the evening, or early in the morning. The mole, by any of the common methods of trapping, or by terriers.

3. Ethereal fire! and the means are ſupernatural. But obſerve, I diſtinguiſh between *blight* and *ſmut*; and, on ſome other occaſion, may offer my ideas more at length on this ſubject.

4. I cannot ſuppoſe that bees are unfavourable to the growth of any plant; and I know that they are very uſeful in diſperſing the farrina, in all hermaphrodite flowers, and tranſporting it from male to female, on androgineous plants placed in hot-houſes, melon-frames, &c. and on which the wind cannot act, in facilitating that object, with the ſame effect as in the open air.

5. Dry, hot ſeaſons, are generally moſt productive of the acarus, cocus, maggot, ant, &c.; and wet ones of the grub, ſlug, ſnails, &c. It might be difficult to ſay what precautions are to be taken againſt them; but every one who has his own intereſt at heart ought to be indefatigable in repelling their attacks.

6. I don't know that the ſmell of any plant, in its natural growing ſtate, is *deſtructive* of inſects; but there are ſeveral plants which are, when dried and reduced to powder, or when burnt near to certain inſects; and theſe are, tobacco, hemlock, aſaphædita, rue, wormwood, henbane, &c.

7. The pine-apple brought that ſpecies of inſect, called the pine-bug, which, however, I have never ſeen on any other plant, although placed in its immediate vicinity. I believe, another ſpecies of that inſect, called the brown-ſcale, or orange-bug, was brought with the orange-tree; but it is now found on many other ſtove and green-houſe plants. I have never ſeen any of them on native plants.

8. In very many inſtances; for ſeveral kinds of inſects, I have found fumigation effectual, particularly for all kinds of the aphis.

9. It will deſtroy ſome tender kinds, as the aphis, thrips, &c. but the proceſs is eaſier by a fumigation of tobacco, and alſo more certain. On the whole, it ſeems rather to retard the progreſs of, than deſtroy inſects; and it produces unſalutary effects on vegetation by its aſtringency, if too freely applied. I have never, however, tried it for inſects in the ſoil.

10. In ſo far as they diſturb the roots of eſtabliſhed, and diſplace thoſe

thoſe of infant plants. They may be deſtroyed by trapping, &c. See anſwer to queſtion 1. of this head.

IX. *On the Improvement of Plants, by introducing new Varieties.*

Anſ. to Quef. 1. Yes; by ſowing them in a richer and better prepared ſoil, and paying all due attention in the culture.

2. Anſwered above.

3. Yes; by high cultivation.

4. Yes; by ſupplying them plentifully with water while ſwelling, and ſparingly while ripening.

5. By keeping the ſoil clear of weeds and all noxious matter, ſtirring the ſurface frequently, expoſing them freely to the ſun and air, and defending them from wet while ripening.

NOTE.

THE Conductor gratefully acknowledges the obligation conferred on him by the author of the above very ſenſible and judicious anſwers to the queries on vegetation, &c. inſerted in the third number of laſt volume; and begs leave to add, that it will afford him much ſatisfaction to receive further information reſpecting the cauſe of the blight in wheat, and other grains, and the beſt means of guarding againſt it, together with other matters noticed in anſwer to the third query of the eighth claſs; theſe ſubjects having occaſioned much diſcuſſion among practical agriculturaliſts.

The Conductor has ſeen anſwers to the queries in the ninth volume of the Bath papers; and with pleaſure gives a preference to thoſe of his intelligent correſpondent. In fact, they appear to be founded upon the ſolid baſis of obſervation and experience, and muſt be peruſed by ſcientific agriculturaliſts with ſingular ſatisfaction.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Anſwers to Queries concerning the Sowing of Wheat in the Spring Months, with Queries on the Working of Oxen.

SIR,

IF better anſwers are not ſent to the queries offered by your correſpondent ALFRED, in laſt number, concerning the ſowing of wheat in the ſpring ſeaſon, pleaſe accept of the following.

Q. 1. Whether is there any variety of wheat peculiarly adapted for ſowing in the ſpring ſeaſon?—Anſ. A kind of wheat, brought, I believe, from Dantzick, was introduced into this coun-

try about twenty years ago, which was ſaid to ripen earlier than our uſual varieties of that grain. This kind of wheat was ſoon given up; and, for a great many years back, none but the varieties commonly cultivated have been ſown in the ſpring ſeaſon. Any of theſe will do equally well on rich grounds as if ſown in the autumn or winter months, providing a dry ſeed-time can be got, and the ſucceeding ſummer proves warm and temperate. The writer of this anſwer has repeatedly reaped crops of wheat ſown in the month of March, of excellent quality; but the goodneſs of the crop was conſtantly regulated by the circumſtances already mentioned.

Q. 2. What is the quantity uſually ſown per acre at that time?

Anſ. It is difficult to ſtate the quantity *uſually* ſown, becauſe this is too often regulated by opinions arbitrary and capricious; but I am clear that a great deal more ſeed is neceſſary than in the autumnal or early winter months. My reaſon for thinking thick ſowing neceſſary at the period under inquiry proceeds from a belief that every moment conſumed by the plants, in ſtooling or tillering, is ſo much loſt time in their progreſs to maturity: hence the propriety of enabling them to puſh away vigorouſly at the ſtarting-poſt. Perhaps eighteen pecks, Linlithgow meaſure, are neceſſary for ſeeding a Scotch acre, in the months of February or March.

Q. 3. Is there any other preparation neceſſary than what is commonly beſtowed? By preparation I mean pickling the ſeed.

Anſ. The like preparation is required, and no other, for wheat ſown in any ſeaſon of the year; that is to ſay, the ſeed ought to be well ſprinkled or wetted with ſtale urine, which is the moſt certain of all the pickles in uſe, and afterwards ſufficiently dried with hot-lime. If this operation is carefully executed, I venture to maintain, that the object of pickling will be completely gained.

Having thus anſwered the three queries put by Alfred, I am entitled to requeſt he would favour me with anſwers to the like number of queries, which occurred upon reading that part of his letter reſpecting the working of oxen.

Query 1. As Alfred works oxen in pairs, pray what extent of ground does a pair plough per day with him; or rather, which will come to the point at once, how many acres will they plough per annum, the ordinary work of the farm being included? If they are employed to harrow, he will be ſo kind as ſtate the quantity uſually gone over at a yoking?

Alfred mentions that he keeps two ſets of oxen, but that they go only one yoking each per day, becauſe he has not occaſion for two cattle-ploughs.

Query 2. Be ſo good as explain where the neceſſity lies of keeping

ing two ſets, if it be true that "each pair might very well "work two yokings, the ſame as horſes." As the adverſaries of the ox-ſyſtem will undoubtebly ſay, that the ſtatement preſented corroborates what they have uniformly maintained, viz. That oxen cannot be wrought ſo many hours in a day as horſes, and that double numbers, at leaſt, are neceſſary to carry on the like extent of farm-labour, I hope that Alfred will be very particular in the anſwer to this query.

Q. 3. As a pair of horſes are capable of being wrought every day the weather permits field-labour to be executed, and in the corn-diſtricts are actually employed from five to ſix hours per day, for five months of the year, and from nine to ten hours per day, during the remaining ſeven months, will Alfred be ſo kind as to ſay whether oxen are capable of undergoing ſo much fatigue? or rather, whether there is a ſingle farmer in the iſland that uſes them in that manner?

As Alfred profeſſes his willingneſs to furniſh additional information, I truſt, that an anſwer, in courſe, to the above plain and ſimple queſtions, will not be wanting. I am,

Yours, &c.

MAGO.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations on froſted Oats, and a Remedy pointed out for rendering them Nutritious.

SIR,

As no ſubject occupies the attention of the preſent age more than that of *agriculture*, and none ſurely can be of greater utility to our preſent condition, I venture, through the channel of the Farmer's Magazine, an obſervation or two, which, I truſt, will not perhaps be any way inconſiſtent with the deſign of its publication. I mean to ſtate a few facts and circumſtances, and leave it to others more capable to found upon them ſuch theory, or adopt ſuch practice, as may ſeem deducible therefrom.

The general idea among the farmers in the Lothians, and I may ſay in every level country, is, that, in caſe of ſuch froſts as occurred during the laſt harveſt, all the oats in the high lands muſt be rendered uſeleſs for ſowing in the approaching ſpring; and the higher the ſituation, the worſe. This, in fact, is a wrong idea; for it always happens, that though the corn in the valleys, in the hilly countries, at a diſtance from the ſea, may ſuffer by theſe early froſts, the crops on the ſummit, and, to a certain elevation, on the ſides of each hill, remain perfectly ſafe; and ſo certain is the fact,

that it is the conſtant practice of ſome farmers, in hilly countries, to plant their potatoes, and any delicate crop, on the greateſt altitude their ſituation can afford.

I am indeed no philoſopher, and leave the inveſtigation of the cauſe of ſuch a phenomenon to thoſe who are capable of it. But it appears that the height to which the froſt extends on the ſides of the mountains is exactly conformable to the elevation of the hoar-froſt, or rhind, which floats all round the baſis of the hills. This hoar-froſt, however pernicious to vegetation, when ſeen from a high hill-top in a September morning, affords a moſt enchanting proſpect. The effulgent rays of the ſun, to which it very ſoon yields, makes this exhalation appear like a boundleſs ocean adorned with a rich and endleſs variety of green iſlands, as it were, emerging from the waters. Every vegetable, loaded with pearly drops, joins in heightening the luſtre of the ſun-beams, and their own natural verdure; while the ice, diſſolving on every tree and ſhrub, *diſtils like the dew on the tender graſs*. If we add to this ſcene the melody of the groves, where the feathered ſongſters warble forth their unaffected notes from every ſpray, it will finiſh the picture of a rural ſcene, which cannot be exceeded.

This kind of froſt, which ariſes from the lakes, marſhes, and moiſture of the ſurface, ſeldom aſcends to a great height; and it would ſeem, that the later and more intenſe froſts deſcend from the atmoſphere, and are more ſevere on the mountain-tops, where their effects begin. I had ſome accidental communications on this ſubject with a very active and intelligent farmer, on Galla-water, who declares, that what I have above ſtated is perfectly conſiſtent with his knowledge and practice; that he ſeldom can ſave his potatoes without the above-mentioned expedient; and that his oats, in ſuch a ſituation, will in general be found fit for ſeed. No circumſtance acts more forcibly againſt the comfort of the poor than that alarm which cauſes a very general demand for ſeed-oats upon the low-lands, and this ſubject is therefore ſurely worthy the attention of the hill-farmers. It is true, the oats they do not uſe for ſeed muſt come to market in the form of meal, but they muſt be but a poor ſubſtitute for the fine ones they thus withdraw from that market.

It is certainly not the intereſt of a Lothian farmer to *harp upon this ſtring*; as every circumſtance, which tends to create a demand for ſeed-corn to the later counties, muſt be *directly* for his intereſt. But he has narrow and ſelfiſh views, who is incapable of deploring the ſufferings of a whole community, or who can rejoice at the preponderance of his own intereſt, when thrown into the oppoſite ſcale?

The ſecond obſervation I would make (and it is equally ſupported

ported by practice) is, that even when oats are damaged by froſt, ſo as to be unfit for any purpoſe, they can, by means of certain ſimple correctives, be rendered good and wholeſome food for horſes.

The farmer, above alluded to, has been long in the practice of feeding horſes with froſted oats; which, without having their bad qualities corrected, are always found extremely prejudicial to the health of that valuable animal. His method of doing this is, to boil one firlot of oats with half a pound of common ſalt, and four ounces of ſaltpetre, or any quantity with the ſame proportion. This effectually reſtores their nutritive qualities, and renders them perfectly fit for every purpoſe in the way of feeding any animal. By this excellent method, a conſiderable quantity of oats, which were otherwiſe completely uſeleſs, are brought in to ſerve a moſt eſſential and valuable purpoſe, and thereby increaſe, in no inconſiderable degree, the food of the poor.

That the above facts might be fully eſtabliſhed, to the ſatisfaction of all concerned, they have only to aſcertain them by experiments; and, indeed, who can be blamed for diſcrediting ſuch an apparent abſurdity, that, to ſecure vegetables from froſt, it is neceſſary to plant them on the top of a hill? Or, that oats damaged by froſt, can by any means be reſtored to a wholeſome and ſound condition, and rendered fit for the food of animals? The operations of nature, however ſeemingly inconſiſtent with one another, are all connected with fixed cauſes, which are more or leſs difficult to explore. Indeed, there are myſteries in nature which philoſophy cannot elucidate, and ſeeming contradictions which reaſon cannot obviate; but the eſſential part of the above lies within reach of every capacity; for attention and obſervation are the means of diſcovering their truth.

Concerning the origin of potatoe-oats, my correſpondent ſays, they are native ſeeds of South America, imported a few years ago into this country, by a perſon with whom he is well acquainted. This perſon, it ſeems, had curioſity ſufficient to induce him to requeſt of his ſon (I think it was) to hand him occaſionally any plant or ſeed which might be conſidered any way ſingular in its properties: Accordingly, in one package, conſiſting of potatoes, &c. was a ſmall parcel of theſe American oats, about as many as might fill an ordinary ſnuff-box. From this ſmall original importation, and from the circumſtance of their having been in a *potatoe package*, ſprung the oats which now go under that name. He thinks they are already very much mixed or degenerate, and promiſes *to preſent, in Haddington market*, a few bolls of the genuine ones, from the county into which they were firſt brought. It is his opinion,

that,

that, in a very ſhort time, their price will be only in proportion to the additional quantity of meal they are capable of producing.

I am aware that the public have a ſort of right to expect the author's name in the caſe of ſuch communications, and even that of his correſpondent, which is perhaps ſtill more eſſential. But the latter I have not obtained the liberty of doing, and as to the former, though I hate to cloke falſehood, it muſt for the preſent be

Eaſt Lothian, Jan. 1. 1803. URBANUS.

P. S. If I have in any degree mis-ſtated the article relative to the origin of potatoe-oats (having received it only in a verbal communication), I hope my informant, or ſome perſon equally acquainted with the matter, will kindly correct the miſtake in ſome of your ſucceeding numbers.

REMARKS BY THE CONDUCTOR.

WHETHER the hiſtory offered by *Urbanus* of the potatoe-oat be correct or incorrect, is a matter of little importance, for the variety ſo diſtinguiſhed is univerſally recognized as the beſt kind of oats for good ſoils; but whether they can be ſown with equal advantage upon inferior ſoils, is not ſo clearly eſtabliſhed. There can be no doubt but that their real value above other oats will in a little time be regulated by the extra quantity of meal produced; and we believe that, in all the diſtricts where they are extenſively ſown, this criterion is already eſtabliſhed. We ſhall be extremely happy to ſee the parcel of pure ſeed, which is intended to be ſhown in Haddington market, though we are not of opinion that thoſe hitherto ſown have in any great degree degenerated.

What our correſpondent ſtates reſpecting the conſequences of froſt to oats in different ſituations is perfectly correct, and was in ſubſtance noticed by our Tweedale reporter in laſt number. We can bear teſtimony that froſt will not hurt oats, or any kind of grain, if wind prevails about the time when the ſun riſes, or ſoon afterwards; though, if carried off by a hot ſun, great danger to the plants is the neceſſary conſequence. A ſouthern expoſure, in ſuch caſes, is always attended with greater danger than a northern one, and the higheſt ſituations are leſs endangered than ſuch as are below them, becauſe the effects of the air are ſooner felt in the one ſituation than in the other.

With reſpect to the mode of correcting froſted oats, ſo as they may prove nutritious to horſes, we muſt confeſs that this is the firſt time it has reached us, and we have not had occaſion, in the courſe of our experience, to try any ſuch practice. We, however, recommend it to the notice of our readers in thoſe counties where the froſt confeſſedly proved injurious laſt autumn, and will be glad

glad to learn the reſult of ſuch trials as may be made to aſcertain the fact.

Our correſpondent will excuſe us for changing his ſignature, another gentleman having previouſly foreſtalled the one he had adopted. We ſhall be glad to hear from him often. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Diſeaſes to which young Calves are expoſed.

SIR,

THERE is a ſubject of the utmoſt conſequence in the preſent ſtate of the country which, while it merits the greateſt attention, I have never yet ſeen diſcuſſed, nor even noticed in your uſeful publication. The ſubject I allude to is, The diſeaſes to which very young calves are liable. When butcher-meat is at ſuch an exorbitant price, and that price is ſaid to ariſe from the ſcarcity of the ſtock, every mean ought to be uſed to increaſe the quantity, in order that the price may be brought within the reach of the general body of the people, which at preſent it is not; and this can only be effected by endeavouring to preſerve as many calves as poſſible, till the deficiencies of 1799 and 1800 are made up.

It is well known in every breeding country, at leaſt it is ſo where I live, that a great many calves die every year of an unknown diſeaſe with which they are infected very ſhortly after their birth. The common name which this diſeaſe receives with us is *the cords*; and while its fatal and widely-extended effects are the ſubject of juſt regret, the diſeaſe itſelf is looked upon as incurable, and no pains are taken to inveſtigate its nature, cauſes, and ſymptoms, and no preſcription ſuggeſted as a cure or preventative. Whatever be its nature, this diſeaſe is exceedingly dangerous, and ſo extremely rapid (terminating frequently in a night's time), that all means of relief are commonly uſeleſs before even it is obſerved.

I do not, by any means, pretend to be qualified to diſcuſs this ſubject in the manner its importance requires: all that I ſhall therefore attempt is to ſtate a few facts which have fallen within my own obſervation, and from theſe to ſuggeſt ſome hints for the conſideration of others of more experience; hoping that experienced breeders, and all others who wiſh well to the intereſt and proſperity of their country, may be induced to take this ſubject into their ſerious conſideration.

Almoſt all calves that I have ſeen, who are ſaid to have died of the cords, appear, when they are opened up, exceedingly red, and the ſmall leaders or ligaments are conſiderably ſwelled, and have ſome

ſome kind of reſemblance to ſtrings paſſing through the internal parts, from which probably the diſeaſe has its name. Every ſymptom indicates a conſiderable degree of plethora, if not a very high degree of inflammation.

I have commonly obſerved that calves are moſt liable to be affected during the firſt days or weeks after they are calved. If they outlive five or ſix weeks, they are ſeldom in any danger.

Calves that ſuck their mothers, I believe it will be found, are not ſo liable to the diſeaſe as thoſe who are fed by the hand.

The greateſt number of calves who fall a ſacrifice to this diſeaſe, if not the whole of them, are thoſe who are cloſe confined to the houſe from their birth, without ever being expoſed to the free open air without doors. It is a well known fact, that calves who are dropt without, and remain in the fields, are in little or no danger. Cows that are laid on to graze for beef frequently turn out to be in calf; and it is no uncommon thing to ſee them drop their calves in the middle of froſt and ſnow, and yet theſe young creatures, if they can only once get to their feet, without being frozen to the ground, are hearty and well. Calves, lambs, and foals, require exerciſe and freſh air, and nature directs them to take a great deal. It is aſtoniſhing to ſee with what force and vigour (particularly the calf), and how long, they will run. I have often beheld them with admiration, while I was in pain for fear of ſome pending miſchief. But this free, unconſtrained, and ſevere exerciſe without doors ſeems to be the very thing that makes them thrive, and to be neceſſary to their very exiſtence.

Such are ſome of the facts relating to this diſorder which have come under my obſervation, and, if they apply generally, they would ſeem to lead us not only to its cauſe, but to its prevention.

The diſorder ſeems to proceed from plethora terminating in ſomething of an inflammatory nature, and to be increaſed, if not occaſioned by confinement, and want of full and free exerciſe in the open air. Whatever plan, then, is adopted which tends to counteract and diminiſh ſuch plethora, and to contribute to ſuch exerciſe, will operate as a preventative to the diſorder. And, with this view, would it not be prudent to turn out calves as ſoon as poſſible after they are calved, and let them run about a few hours every day? But as either the weather, or ſome other circumſtances, may not permit this in every caſe to be done, might it not be adopted as a ſubſtitute, to take a little blood from them every week for a ſhort period of time? I only throw out theſe hints for better information, and will be very glad to ſee the ſubject followed up, through the channel of your magazine, by ſome perſon of more judgment and experience than I can pretend to. I am, &c. W. D.

NOTE

Note by the Conductor.

We have repeatedly noticed a similar disorder to the one described by our correspondent, which proved fatal to calves even when they were not confined. This inclines us to believe, that the remedy he suggests, viz. taking a little blood frequently from them, is the most effectual preventive of the mortality which often prevails among this description of young cattle. To be sure, if they are intended to be fattened speedily, confinement is necessary; but this does not prevent the application of the lancet, which in our opinion is the only effectual remedy.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations on Tythes.

" Let us cut off these legal bars
" Which crush the culture of our fruitful Isle.
" Were they removed, unbounded wealth would flow;
" Our wastes would then with varied produce smile,
" And England soon a second Eden prove."

SIR,

To superficial minds it often appears surprising, that the art of agriculture, which has been practised, by such a great number of people, from the earliest ages, should not long ere now have attained to something like perfection. A person, however, who reflects coolly upon the subject, will be at no loss to ascertain the causes which have obstructed its progress. He will discover that, besides local and particular obstructions, the very laws of many countries are hostile to improvement; and that to these legal obstacles may be added numerous other impediments flowing from the system of connection anciently established, and in numberless instances still preserved, betwixt the proprietors of the soil and those appointed to cultivate it.

In this part of the island, it is with real pleasure I remark, that improvement is not retarded by legal obstacles, and in few cases by an improper system of connection betwixt landholders and tenants. I wish I could say as much in favour of the agriculture of our southern brethren; but sorry I am that facts will not

warrant me. There, as if it was intended to place the huſbandry of both nations upon ſomething like an equal footing, every eſtabliſhed abuſe is retained with aſtoniſhing pertinacity; and the deficiency of our climate, and poverty of our ſoil, compared with theirs, is more than compenſated by the ſuperiority of our ſyſtem both legal and conventional. I have ſomewhere read, that till the occupiers of land are entruſted with as much liberty in the management of their affairs as is enjoyed by merchants and manufacturers, it is unneceſſary to expect that improvements of any conſequence will be made. In North Britain, generally ſpeaking, we are as nearly placed in the favourable ſtate alluded to as circumſtances will permit; hence a gradual progreſſive improvement of the country is regularly going forward; hence the value of landed property is daily increaſing; hence the condition of the tenantry is vaſtly meliorated. I wiſh, from the bottom of my heart, I could preſent the ſame bright and flattering picture of Engliſh huſbandry; but a regard to truth and juſtice will not allow me to go ſo far. Except in a few diſtricts, agriculture has remained ſtationary for a great number of years; and under a continuance of eſtabliſhed ſyſtems, the gift of prophecy is not required to foretel that it may languiſh and go back, but that little advancement will be made.

Since the commencement of the Farmer's Magazine, I muſt do you the juſtice to ſay, that repeated attempts have been made to explain theſe things in a ſatisfactory way. Indeed, the leading object of your undertaking appears to me highly praiſe-worthy. You ſupport a liberal ſyſtem betwixt proprietors and cultivators of the ſoil, and have done your part to get abuſes entirely removed. The harveſt of reform, however, is a tedious buſineſs; and long muſt the ſeed be ſown before the plant can reach maturity. Mankind are very tenacious of ſyſtems which have been handed down from their forefathers; and often, from a reverence more to be reſpected than commended, adhere to them after their inutility is almoſt univerſally recogniſed.

Among other grievances which afflict the cultivators of South Britain, tythes paid to clergymen, or, what is worſe, to lay impropriators, are none of the leaſt. The impolicy of this tax (it cannot juſtly be called by any other name) you have repeatedly pointed out, though I do not remember of a remedy being ſuggeſted, either by you, or any of thoſe gentlemen who have correſponded on the ſubject. Will you permit me to ſtate my opinion as to tythes; and to notice a defence of this obnoxious burthen preſented in your laſt Number?

That tythes are a very ancient burthen upon the proprietors of land, the hiſtory of different nations ſufficiently proves. It is not my buſineſs, at this time, to ſay one word upon the propriety

priety of this tax, when originally eſtabliſhed. Perhaps it was then neceſſary and expedient, money being a ſcarce article, and payments in kind generally reſorted to, in order that the deficiency of what we now call a circulating medium might be ſupplied. I ſhall therefore confine my enquiry concerning tythes to the period of the Reformation, when the Engliſh ſeparated from the Romiſh church; and this period I reſort to, ſo as the nature of lay-tythes, and the term lay-impropriator, may be more generally underſtood.

When Henry VIII. ſeparated from the Church of Rome, he laid violent hands on the revenues appertaining to abbacies, monaſteries, and other religious houſes in England. Many of theſe religious houſes poſſeſſed lands to a conſiderable extent, and likewiſe received tythes from land in many parts of the country, which were afterwards, at various times, conveyed by that arbitrary monarch to his favourites and dependents. Hence originated lay-tythes, which, from good authority it is believed extend to the fourth part of the Engliſh territory. Hence lay-impropriators are either the deſcendents of thoſe to whom Henry VIII. conveyed the tythes of religious houſes, or perſons who poſſeſs them by right of purchaſe.

If I am not miſtaken, tythes, ſo far from being then viewed as a ſacred right, were, after the ſeparation from Rome, collected in conſequence of an act of the legiſlature ſpecially enacted for that purpoſe. This, I cheerfully concede, gives a juſt and lawful right to collect them, but certainly does not reſtrain the legiſlature from making new laws, either to regulate the collection, or even to commute the tax altogether. I ſupport the abſtract right, becauſe it is agreeable to the laws of the country; but if it can be ſhown that the preſent mode of putting the right in execution is detrimental to the public welfare, then, I apprehend, it naturally follows that the welfare of the public requires ſuch regulations to be made as will annihilate the grievance.

Having now ſaid a few words concerning tythes, as ſettled at the reformation, and acknowledged that they are at this time collected by legal authority, I proceed to ſhew in what reſpects the exaction operates as an impediment to improvement.

It has long been received as an axiom, that every tax, which operates with greater ſeverity upon the induſtrious than the ſloven, muſt, in principle, be a bad one. Tythes operate preciſely in this manner: If a farmer allows his land to lie waſte, he pays little or rather no tythe: if he cultivates it imperfectly, his ſhare of the burthen is not much encreaſed; but, if he plows, drains, and manures his waſte land, or introduces a more perfect ſyſtem of cultivation on his arable land, then inſtantly his payment is doubled, tripled, and even quadrupled. For doing what, in fact

fact, deſerves a public reward, an additional payment is impoſed on him, and this paywent is at all events certain, when the profits of the undertaking are contingent and hazardous. This is not declamation, but a ſober ſtatement of facts. Surely then ſuch a ſyſtem muſt be conſidered as holding out a great obſtacle to improvements. If farmers poſſeſs common ſenſe, or have any regard to their own intereſt (which your correſpondent, to be after noticed, ſeems to conſider as ſynonimous) then aſſuredly they will be cautious how they embark in improvements, which muſt at all events prove beneficial to others, without any moral certainty of benefiting themſelves. Tythe is a handſome profit when waſte land is cultivated: the natural value of the ground is trifling, but the expences laid out in rendering it arable are conſiderable. Tythe is of courſe drawn, not only from the land, but alſo out of the whole expences incurred in improving it, which, in numberleſs inſtances, far exceed the original worth of the property.

Tythe, though apparently an equal tax, is in reality more unequal than any tax yet deviſed. On poor ſoils, the tenth of the crop, though nominally exigible, upon the ſame ratio, is more ſeverely felt by the poſſeſſor than when paid from good ſoils. To you, who unqueſtionably have ſtudied the ſubject, an explanation may be ſuperfluous; but to others, who are not ſo verſant in political oeconomy, it cannot be improper to elucidate an opinion which, I confeſs, has at firſt ſight a paradoxical appearance.

All poor ſoils, like land in its natural ſtate, require conſiderable outlays before they can be rendered comparatively fertile and productive. I do not hazard much when I maintain, that five quarters per acre will be gained at leſs expence upon rich loams and clays than three quarters per acre from thin clay and mooriſh ſoils. Theſe inferior ſoils require more manure, more labour, as much, if not more, ſeed than ſoils of the firſt deſcription, conſequently the diſpoſeable balance, from which tythe muſt be paid, is out of all bounds diminiſhed. In the one caſe, tythe will amount to about 17 *per cent.* on the diſpoſeable produce, whereas, in the other, it will be found not leſs than 32 *per cent.* a difference which few people ever troubled themſelves to calculate. As I wiſh to make myſelf perfectly underſtood, I ſubjoin a few figures in illuſtration of the argument.

Take

Take the crop on a rich field of loam or clay at five quarters per acre on an average, *inde* - 5 qrs. 0 buſh.

Deduct ſeed, on an average of grains, 4 buſh.			
corn for working ſtock	6		
ditto for farm ſervants	3		
ditto for incidental expences, ſuch as harveſt work, tear and wear, &c. -	4		
	2	1	2 1

which leaves a diſpoſeable balance of two quarters ſeven buſhels per acre, as a fund from which tythe can be paid; but as the whole crop is tytheable, the amount thereof is four buſhels, or nearly 17 *per cent.* on the diſpoſeable produce.

Take the crop on thin clay, or mooriſh ſoil, at three quarters on an average, *inde* - 3 qrs.

Deduct ſeed -	4 buſh.	
Horſe corn -	6	
Farm ſervants -	3	
Incidentals -	3	
		2
		1

which leaves a diſpoſeable balance of one quarter per acre as a fund from which tythe can be paid. The tythe of three quarters is two buſhels, two pecks, or thereby, or nearly 32 *per cent.* on the diſpoſeable produce; though, in the laſt caſe, I have ſtated the incidental expences at one buſhel per acre leſs than in the other, which, where good management is practiſed, may be a queſtionable circumſtance.

Thus it appears, that the poſſeſſor of a good ſoil, who raiſes five quarters per acre, pays tythe, when it is collected in kind, at the rate of 17 *per cent.* of the grain remaining on hand, after the expences of working the ſame are defrayed; while the poſſeſſor of inferior ſoils, who raiſes three quarters per acre, pays at the rate of 32 *per cent.* though the tax, at firſt ſight, is preciſely the ſame in both caſes. After this ſtatement, which, it is preſumed, as a general illuſtration, will not be found far from the truth, can it excite ſurpriſe, that waſte lands and inferior ſoils remain unimproved among our ſouthern neighbours?

I might now ſhow in what reſpect tythes prevent the cultivation of waſte lands, were I not fully ſenſible that few people are ſo ignorant as to deny the truth of this propoſition. Indeed, to attack tythes merely upon account of their conſequences, is little better than attacking a man of ſtraw, who is incapable of making

ing the ſlighteſt defence. It is not concerning their utility or expediency that economiſts diſpute. Upon this point almoſt every one is agreed who has inveſtigated the buſineſs. The difference which prevails ariſes entirely from the difficulty of making a juſt arrangement, where ſo many intereſts are concerned. If tythes, however, prevent the improvement of the country, or, in other words, occaſion the national ſtock to be leſs than it would be if they ceaſed to operate, every friend to his country will join me in declaring, that a remedy ought to be ſought after; nay, even if a ſtrong meaſure is neceſſary to remove ſuch an extenſive evil, that it is an incumbent duty upon the government of the country to put ſuch in execution.—*Salus populi ſuprema lex.*

After having fully conceded the right of impropriators, it cannot be ſuppoſed, that, in propoſing a commutation of tythes, I am in the ſmalleſt manner hoſtile to their intereſts. My ideas are, that ſuch holders are entitled to a full compenſation, if the tax was to be aboliſhed; and I am clear, that it is for their real intereſt that an adjuſtment ſhould be made. The unproductive ſtate of ſuch an extenſive portion of the national property does not ſerve them; nor is it practicable to collect the full value of tythes were laws multiplied at *infinitum*.

I am convinced, that it is the difficulty, not the inexpediency, of a commutation, which has hitherto prevented ſuch a ſalutary meaſure from being enacted. It has been propoſed to value all the tythes preſently paid, and to make that valuation the rule of payment in all time coming; but to this it is objected, that no regard is thereby paid to the gradual depreciation of money, conſequently that the real value of the payment might be annually diminiſhed. The plan eſtabliſhed in Scotland has been alſo recommended; but, though this would effectually remove the evil, yet, as the right of impropriators is now better ſecured than in Charles I's. days, it is evident that ſuch a plan ſtands little chance of being adopted. Again, a corn rent has been propoſed by ſeveral people, and by others, that a certain part of all tytheable land ſhould be ſet apart, in lieu of an annual payment. To both theſe modes of adjuſtment, ſtrong, and, in my opinion, valid objections may be offered. Corn is but an awkward article for clergymen to deal in; and, at any rate, ſuch a mode of payment could not apply to paſture and waſte land. Beſides, it would open a door for conſtant ſquabbling about the quality of the article delivered. The other mode of adjuſtment, giving land in lieu of tythe, would, ſo far as the clergy are concerned, be ſtill worſe in a national view. It would put ſuch a quantity of land in a ſtate of mortmain as would inevitably encreaſe

creaſe the evil to the ſtate which the commutation is meant to correct.

From all theſe conſiderations, it appears to me, that no method can be deviſed for regulating tythes ſufficient to remove the evils attendant upon the preſent ſyſtem, and ſecure ſo effectually the intereſt of all parties, as a general law fixing a payment in money, according to the rentals of the land from whence tythes are exigible. Such a plan carried into execution would do away the complaint, that tythes obſtruct improvement. It would allow the proprietor to receive full value of his company concern; it ſecures the tythe-holder in his ſhare of the property, as aſcertained by the legiſlature; and prevents the farmer from being deprived of the benefits flowing from ſuch meliorations as he may have made on the land he occupies.

I am at a loſs to diſcover any objections that can be made to the principles of this adjuſtment, though aware that, in applying the principle to practice, a diverſity of opinions may prevail reſpecting the ratio of payment to be ſubſtituted; but with a full conſideration of the queſtion before me, I humbly ſuggeſt the following outlines of an adjuſtment that would promote the public welfare, and ſecure the intereſt of every individual concerned in the collection or payment of tythes. I propoſe that the whole land in England ſhall be arranged into three claſſes; 1. Old Arable, 2. Paſture, 3. Waſte. The firſt claſs under the preſent ſyſtem pays almoſt the whole tythes that are collected, therefore, any permanent regulation ought in juſtice to be higher upon this than the other two claſſes, even holding the different values in view. The ſecond claſs is, in nine inſtances out of ten, kept from convertible huſbandry, to eſcape the burthen of tythe; and the laſt, except in a few caſes, does not yield produce from which tythe can be exacted. Under theſe circumſtances, it would be unreaſonable to demand a commutation upon the ſame ratio, from theſe different claſſes, though it is fair that each of them ſhould bear a reaſonable proportion.

The Scotch law declares, that one-fifth of the free rental ſhould be held as equal to the tythe of land. This principle, though evidently a fallacious one, has the merit of being clear and diſtinct, which is a neceſſary quality in every public meaſure. The fifth of the rental in all caſes, like the tenth of the produce, muſt operate very differently in different ſituations, but ſtill not to the ſame extent, when the rental only is affected, and ſtock in trade and perſonal abilities are exempted.

I ſhall therefore take the Scotch law as the baſis of the propoſed adjuſtment, and recommend that one-ſixth of the rental of land, preſently in an arable ſtate, ſhould be ſet apart in lieu of tythe in all time coming; and that where fines or graſſums are

paid,

paid, the tythe holder ſhould have a claim for the ſame proportion of all ſuch fines or graſſums levied by proprietors. This ſhare of rental to increaſe or diminiſh as rents increaſed or diminiſhed, which obviates every objection hitherto offered againſt a commutation in money; allows the tythe-holder a due ſhare of every emolument that might ariſe from the encreaſing proſperity of the country; and prevents him from ſuffering a loſs in caſe money ſhould fall in value, as has hitherto happened.

Thoſe who are acquainted with the ancient Scottiſh tythe ſyſtem, will at once perceive, that though I have taken it as the baſis of my plan, yet I have deviated a little from it in the rate of commutation. The proportion in Scotland is one-fifth of the rent, but I have ſtated one-ſixth as an equitable payment. It is well known, that in Scotch valuations, deductions are conſtantly made for improvements, and that in fact tythe, even at the time of valuation, ſeldom exceeds one-ſixth of the real rental. Beſides, under the propoſed adjuſtment, the proprietor has a fair claim to an eaſe or deduction, upon account of future improvements, from which the tythe-holder would conſtantly reap profit without being ſubjected to any expence.

If we may ſuppoſe that the average rent of arable land in England, ſubject to tythe, is 25 ſhillings per acre, and that it would be worth 30 ſhillings when exonerated, then the ſum payable to the tythe-holder would under this ſuppoſition amount to 5 ſhillings per acre, ſo long as the ſcale of rent remained on its preſent footing. If rent increaſed, ſo would the tythe duty increaſe; the intereſt of all the parties would go hand in hand; and, while the obſtacle to improvement would be removed, which is the chief object intended, ſecurity would be gained by all concerned for enjoying the full advantage of their ſeparate rights.

The ſecond claſs of land is the old paſtures. The introduction of convertible huſbandry, the main ſource of tythes, is effectually prevented upon land of this deſcription; and as, without convertible huſbandry, few tythes can be collected, it muſt appear reaſonable that a different baſis ſhould be aſſumed when treating of the rate to be paid in lieu of tythe under ſuch circumſtances. Perhaps one-tenth of the rent is too much to be levied upon ſuch lands. I am clear it ought not to be higher; and when the general richneſs of the old paſtures is conſidered, it ſeems probable that a tenth here will be equal to a ſixth of the rent of old arable land. This rate I propoſe ſhould continue in all time coming, whether convertible huſbandry is, or is not, introduced.

The laſt claſs is the waſte lands. Here it is obvious, that tythe from ſuch lands depends entirely upon the nature and extent of the improvements that are made, for, in their natural

ſtate,

ſtate, the tytheable produce is very limited. As it is perhaps upon lands preſently characteriſed as waſtes that the greateſt artificial improvements would be made, it is abſolutely neceſſary that the rate of payment ſhould nominally be much lower than ſpecified with regard to the other two claſſes; though I have no doubt but that in reality the greateſt increaſe of tythe would ariſe in this claſs. I propoſe, therefore, that one fifteenth of the rent ſhould be conſidered as a full compenſation for tythe upon all lands of this deſcription. Perhaps many people may view this as too high a compenſation; but when it is conſidered that rent, at the outſetting, when improvements are making, muſt of courſe be very low, and that it cannot riſe till a degree of perfect culture is eſtabliſhed, I entertain a hope that the rate propoſed will be viewed as equitable and reaſonable.

Thus I have briefly ſtated the rough outlines of a plan for removing an important agricultural grievance; and there cannot be a doubt entertained, but that the public intereſt, as well as that of individuals, would be materially advanced were ſuch a plan carried into execution. The public would be benefited by a general introduction of convertible huſbandry, and by the culture of that large portion of the iſland, which, to the ſhame of our government, is ſuffered to remain almoſt in a non-productive ſtate: The landed proprietor would receive the full value of his property, as a removal of tythes would inſtantly occaſion convertible huſbandry to be generally diſſeminated, and be the forerunner of a great riſe of rent: The tythe-holders, whether clergymen or lay-impropriators, would likewiſe participate of the general advantage. At the outſet, it is probable that the amount of tythes would exceed, at leaſt it would be equal to, the tax in kind, or the money preſently levied in lieu of it, while all the drudgery, all the ill will which inevitably fall to the lot of the collector, would be avoided. As to the farmers, they would moſt likely gain more than the proprietors, or tythe-holders, by the eſtabliſhment of ſuch a commutation. They would be free of arbitrary exactions levied in direct proportion to the extent of their merits and abilities. When improvements were made, they would be ſecured from the interpoſition of a third perſon; and rent being fixed, no demand for a ſhare of profits could be made, during the currency of a leaſe, by any perſon whatever.

In order that a commutation of tythes, ſo devoutedly to be wiſhed, might be carried into execution, all that ſeems neceſſary, in the firſt inſtance, is an act of the legiſlature to aſcertain the baſis upon which the commutation is to be made. Under the ſuppoſition that a plan, ſuch as I have taken the liberty to offer, is juſt and equitable, the act ſhould direct that a commiſſion for

each county ſhould be granted, with power to name ſub-commiſſions for each pariſh, by whom the whole lands therein ſituated ſhould be claſſed. The county commiſſioners to review and amend the parochial reports where neceſſary; and, being made up, they ſhould be regiſtered in the county records as a rule of payment in all time coming.

It may perhaps be expedient to allow proprietors of land the alternative of accepting a commutation or not, but having once taken the benefit thereof, no change to be allowed afterwards. Where a *modus* has been legally ſettled, or is ſupported by preſcription, the act ought not to include ſuch caſes, the object in view being already obtained.

In theſe outlines I make no reference to a ſale of tythes, but leave proprietors on both ſides to make arrangements, as may be done in other caſes with any branch of private property. Whether ſales take place or not, is a circumſtance unconnected with the public good; for if tythes are conſtituted a rent charge upon permanent principles, it does not matter to whom they belong.

Having taken up ſo much of your time, I ſhall confine my remarks on Mr T. S.'s defence of tythes, vol. 3. page 421, within narrow bounds. Indeed, the manner in which I have conſidered the ſubject, has neceſſarily occaſioned me to foreſtal ſeveral arguments very applicable to the paper now to be noticed.

Mr T. S. ſets out with obſerving, that 'the general ſtrain of your Magazine is inimical to tythes,' and that 'to him the ſubject ſeems to be very imperfectly underſtood.' Could he expect that a burden which no man acquainted with the circumſtances, unleſs perſonally intereſted, will ſanction with his ſupport, would be countenanced by the conductors of a work, the leading object of which is to promote improvements? That the ſubject is imperfectly underſtood I readily acknowledge; perhaps a ſtriking proof of this circumſtance may be found in the very letter now under conſideration. Allow me to ſay, that your correſpondent, notwithſtanding the candid dreſs in which his arguments are cloathed, ſeems very little acquainted with the nature and extent of tythes. You did right, however, in giving the defence a place, as the inſertion ſerved to diſplay the weakneſs of the cauſe. Truth can never ſuffer by the effect of enquiry; and the more that this, or any ſubject, is inveſtigated, the greater light will be thrown on 'all its bearings' and conſequences.

In the defence of tythes, a good deal of extraneous matter is introduced; and it is even hinted, that our admirable conſtitution ſtands a chance of being overturned if tythes are meddled with. Were I to notice theſe things, or merely to reaſon upon them,

them, I might ſtate, that the commutation already eſtabliſhed in North Britain proves that ſuch a meaſure may be accompliſhed without the injury apprehended. I have a higher opinion of your correſpondent's good ſenſe than to ſuppoſe he really labours under ſuch apprehenſions. Tythes, it is plain, may be commuted with as much facility as the duty on tea was converted into a window-tax, or, as more recently happened, when the coal-tax was changed for an additional duty on ſpirits. The Britiſh Legiſlature have, in many inſtances, (and certainly ſuch a power is the inherent right of every government) interfered with private property. I might quote the juriſdiction act, which is exactly in point, nay, every canal, road, or harbour bill, that ever paſſed, will bear me out: but what need is there for any argument at all, ſince we all feelingly remember an act lately paſſed, which, if it had not been repealed, would, in a given number of years, according to circumſtances, have cut deep into the property of both land holders and tythe-holders. Conſider theſe things, and ſay whether the regulation of tythes would trench more upon the ſacred rights of individuals than the inſtances of legiſlative power that I have quoted.

The cauſe why the owners of tythes are alarmed, when the ſubject of commutation is mentioned, proceeds from an apprehenſion that the diſcuſſion may be fatal to their intereſts. Your correſpondent ſtates their right to the tenth of the produce, or to the fifth of the ſoil, to be as ſtrong as that of landholders to the remainder. I preſume he is here in an error. It was never underſtood that an annuitant, or a ſervant, whoſe annuity or wages were paid out of the rents or produce of an eſtate, had any right at all to the eſtate itſelf, but that their claim upon the premiſſes ceaſed the moment that ſuch annuity or wages were paid. In the buſineſs of tythes, lay-impropriators may fairly be conſidered in the light of annuitants, and clergymen as ſervants who undertake to perform ſuch and ſuch work upon certain conditions. The lay-impropriator, like other annuitants, receives his annual payment without diſcharging any duties. The clergyman, on the contrary, renders a return for his ſtipend or wages; and it is preſumed, that if he fails in rendering this return, he could not legally claim the emoluments.

If theſe things be a juſt repreſentation, what ſhall I ſay concerning the alternative held out, whether the property ſhould be ſold for the benefit of the real proprietors, or of thoſe who, in the language of Rodondo, may be conſidered as a mortgage upon the premiſſes. To ſuppoſe for a moment ſuch an alternative neceſſary, is highly ridiculous. The keeneſt adverſaries to tythes have never

never gone farther than pointing out the propriety of valuing them, though no doubt different ideas have prevailed concerning the baſis of the valuation. Their wiſh was to prevent tythes from operating as an obſtacle to the improvement of the country. Your correſpondent, in my opinion, totally miſunderſtands the ſubject; for the intereſt of both parties may be benefited by a commutation, as ſtated in the firſt part of this letter. The real object is, to prevent tythes from operating as a tax upon induſtry; and it is in this view that the public are intereſted. I aſſure him it is exactly the ſame to practical agriculturiſts whether the impropriator has a third or a fifth ſhare of the concern. If the rate does not riſe proportionally to the exertions of the occupier, the nature of the partnerſhip will give them no trouble.

Your correſpondent would infer, that tythes are not yet felt to be an evil of magnitude, becauſe, as he ſays, proprietors have never been cordial and unanimous in taking ſteps to procure a commutation. Without laying any ſtreſs upon the old adage, 'that what belongs to every body belongs to no body,' or ſtating that tythes, being in all caſes paid by the tenant, renders the proprietor more negligent than conſiſtent with his intereſt, I may notice the application from Devonſhire eight or nine years ago, and the ſtill more recent reſolutions of the Grand Juries in different counties. It may alſo be mentioned, that, by a ſtrange perverſion of terms, to notice this buſineſs has of late been conſidered as a doubtful ſign of principles: and perhaps this very circumſtance has contributed to prevent the queſtion of commutation from being regularly brought forward, ſeeing that a collection in kind has been reprobated by ſeven-eights of the gentlemen employed by the Board of Agriculture in the great work of ſurveying the kingdom.

I might have noticed the extent of tytheable land, as an inſtance how little the ſubject was comprehended by Mr T. S. He is not content with leſs than an eight ſhare of the kingdom for the holders; which, if true, would have corroborated ſome of my arguments againſt the inexpediency of the tax. A conſiderable part of land is tythe free: in many places, a trifling modus is only paid; and in others, from the prevalence of paſture land, little or no tythe is exacted. I ſpeak with certainty upon theſe points, becauſe I have examined into them upon the ſpot. The value of Engliſh tythes, in ordinary years, may amount to about three millions ſterling, or nearly one ſixteenth of what is underſtood to be the rental of the country.

But does the gentleman know what is exacted under the name of tythe,—or how the articles are divided? If he does not, the following extract of a letter, from a friend in England well acquainted with the buſineſs, will communicate ſome information

to

to him relative to the disagreeable situation of those placed under the tything system.

"In many places, it is the custom for the tythe-owner to require 24 hours notice to go and set out the tythes; by which it frequently happens, that though a field of corn be perfectly fit for leading and stacking, yet the cultivator is prevented from embracing the opportunity—and, before the expiration of the 24 hours, the rain comes; and if a series of wet weather ensues, the crop is often very materially injured. In addition to this, an ill-natured tythe-owner will not tythe a part of a field, but will insist on the whole being tythed at one time.

"Another hardship is, that the courts of law have determined that, after the crop is tythed and the farmer has taken his part away, the tythe-owner may let his share remain in the field, and thereby prevent the occupier from turning in any stock to depasture in the field, or to plow the land for any other crop which he might wish to put in immediately, as winter tares, rape or rye, for green food in the spring, wheat after drilled beans, &c.; and the poor injured farmer has no other remedy than by bringing an action of trespass, which, in such cases, is often worse than the disease, as most people who have been forced to seek redress by law have ever after had occasion to remember the fable of the Sheep and Bramble.

"The courts of law have made another decision that bears very hard on the cultivators of turnips.—It is admitted, that if turnips are consumed by sheep which pay tythe either in lamb or wool, that no turnip-tythe is due, provided the turnips are eaten *as they grow*; but if *severed from the ground*, and eaten not two inches from where they were produced, they are then tytheable.

"I have been always so stupid as not to perceive the justness of this decision, but clearly understand the great injury and very material loss to the cultivator, which I have had many occasions to observe, and have as frequently been tempted to think this decision the *ne plus ultra* of absurdity.

"Every farmer, who knows the value of good fold yard dung as a manure, must materially feel the want of one tenth of his produce, where tythes are drawn in kind; and where it happens on poor land, the loss is irreparable.

"Drawing tythe in kind is also a very great check to improvement in breeding live stock. It is presumed that few farmers would give 500l. for the use of a ram for one season, or 5 or 10 guineas a ewe for being served with a first-rate tup, if he expected that the parson was to come and chuse every tenth lamb, the value of which was not only derived from the tup but also from the ewes, which had been bred probably for 20 years back at a very great expence, and which, on account of their superiority, would

would be readily ſold at from 10 to 20 guineas a-piece. The tythe of 100 ewes of this kind would be 10 lambs, which, at the loweſt eſtimation, would be worth 50l.; but if they had been of the common ancient breed, would not have been worth more than 5l. Here the tythe-owner has a clear gain of 45l. in ten lambs, from the ſpirited exertions of an enterpriſing breeder, who would not have the ſatisfaction to preſerve to himſelf the fruits of his well merited exertions, but the tythe-owner would be in poſſeſſion of as good a breed of ſheep without the leaſt trouble, anxiety, or expence. It is inſtances of this kind that make tythes be conſidered as ſo great a hardſhip, and ſo loudly complained of.

"The great tythes are in general the property of the rector, and conſiſt of corn or grain, hay, wood. The ſmall tythes are all kinds of fruits, roots, ſeeds, herbs, turnips, cabbage, hops, hemp, flax, honey, wax, potatoes, ſaffron, wood,—by ſeeds are meant turnip ſeed, rape ſeed, canary ſeed, and other ſmall ſeeds. Mixed tythes are colts, calves, lambs, kids, pigs, milk, cheeſe, agiſtment or paſturage. Wool is alſo a mixed tythe. The ſmall and mixed tythes are generally the property of the vicar, and are very often ſeparated from the great tythes. The great tythes are generally in the hands of laymen."

Let any perſon connected with agriculture ſay, after peruſing the above extract, that tythes are not an obſtacle to improvements. In fact, they are worſe; they impede the moſt neceſſary operations of the year, viz. the harveſting, and ſecuring of the crop. They not only occaſion vexatious delays (the bane of good management in autumn), but are the ſource of much litigation betwixt the parties concerned. Still another trait of this tax is, that the beſt diſpoſed clergyman always makes the leaſt of his tythe. He who wiſhes to live peaceably with all men ſubmits to many drawbacks in the collection, while the rough boiſterous ſons of the church, thoſe who have notoriouſly the ſmalleſt portion of the true Chriſtian diſpoſition, are much better qualified for enforcing a vigorous collection of this unpopular and pernicious tax.

Before concluding, I muſt do your correſpondent the juſtice to acknowledge, that he allows the exaction of tythes to be unfavourable to improvement; but while I do him juſtice in this matter, I am entitled to uſe the advantage which ſuch a conceſſion gives me. If tythes are unfavourable to improvement, why oppoſe their removal either directly or indirectly? If the welfare of the country is at heart, then, inſtead of ſtating difficulties, a real patriot would frankly lend his aid to place matters upon a proper footing. I repeat what is already ſaid, that though I view the rights of tythe holders in a different light from your correſpondent,

correſpondent, I am fully as well diſpoſed to give them a complete remuneration in the event of an exaction in kind being relinquiſhed. Their rights, at leaſt thoſe of lay-impropriators, have a long preſcription on their ſide; and, in the caſe of the clergy, few people would go farther to place them in a comfortable ſtate, though I would do this in ſuch a way as might be conſiſtent with the real clerical character, and the welfare of the country.

One or two paſſages more of Mr T. S's. letter deſerve animadverſion; but I have really occupied ſo much room, that I am apprehenſive of encroaching upon your patience. I cannot however altogether paſs what is ſaid concerning the Duke of Bedford, Mr Young, pleaſure grounds, and working with oxen; but the obſervation ſhall be a ſhort one. If an individual manages his property in an improper way, he certainly is the greateſt ſufferer: and a law to compel every man to become a good farmer, would be fully as ridiculous as a law which enacted that every man ſhould poſſeſs common ſenſe. A man poſſeſſed of graſs ground will break it up if he ſuppoſes it his intereſt. In ſome caſes, his pleaſure would not be promoted thereby; and, upon a ſimilar principle, every farmer will work or refrain from the employment of oxen. There is neither law nor cuſtom to prevent any one from uſing his liberty in theſe reſpects; but where is the analogy betwixt ſuch matters and tythes? Let a perſon be never ſo much convinced of the impolicy of the tax, ſtill he is not permitted to refuſe payment; whereas in the working of oxen, or breaking up of graſs grounds, every one is left to act in ſuch a way as appears moſt conducive to his own intereſt.

I might have noticed the paſſages under conſideration in a different way. Granting that the Duke of Bedford and Mr Young were both in the wrong; that oxen are preferable to horſes for farm labour, and that every acre of graſs ground in the kingdom ought to be broke up, how can the truth or falſity of theſe circumſtances affect the tythe queſtion? If I were called to appear before your correſpondent, and charged with breaking the ſixth command, he ſurely would not receive an accuſation from me againſt another for breaking the eight command as a relevant defence. I grant that the compariſon made betwixt tythes and horſes carries a ſpecious appearance. Both are condemned by many agricultural writers, the laſt chiefly by theoretical ones. Yet, ſays your correſpondent, oxen are not uſed nor are tythes commuted. I don't think, however, that the inference made is a candid one. Every farmer may work oxen if he pleaſes, but, as they are not wrought, ſure evidence is furniſhed that horſes are more profitable. The abrogation of tythes cannot take place in this manner.

manner. The power is in the hands of men who, generally ſpeaking, may be ſuppoſed not very verſant in ſuch affairs. Beſides the trading and commercial intereſts, who are little affected by the exaction of tythe, have got a preponderance in the legiſlature not ſo favourable to the proſperity of the country as could be wiſhed.

One word more, and I have done. Your correſpondent, ſomething like Rochefoucault, lays it down as a principle, that all men of good ſenſe are guided by worldly intereſt. If this be the caſe, why ſhould farmers be denied the uſe of this principle, unleſs it be preſumed that they are not under its influence? The great majority wiſh to get quit of tythes, not becauſe they would then pay leſs rent, but merely that they may peaceably enjoy the fruits of improvement, and be rid of a burthen, which, in every point of view, is vexatious and oppreſſive. I am,

Yours, &c.

A FRIEND TO IMPROVEMENTS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Enquiries concerning the Use of Marle.

SIR,

CONSCIOUS of the great utility of your work, and of your readineſs to comply with any requeſt that may tend to the elucidation of ſubjects not clearly underſtood, I take the liberty of ſubmitting a few thoughts to your conſideration upon a buſineſs of great importance to the farmers of this part of the united empire.

Ireland abounds with boggs and moſſy grounds; and under the greateſt part of them a ſtratum of marle is found. The properties of this manure are imperfectly underſtood; and if we reſort for information to theoretical writers, we are only puzzled and perplexed by the contradictory directions given. As I diſcern that the greateſt number of your correſpondents are practical farmers, it occurs that ſome rules for the uſe and application of this valuable manure, founded upon the baſis of experience, may be got from them. May I therefore ſolicit their attention to this ſubject, and directions reſpecting the kind of ſoil beſt calculated for the application of marle, the quantity neceſſary for an acre, and the propereſt time of laying it upon the ground? I am, Sir, yours, &c.

A CONSTANT READER.

A SHORT

FOR THE FARMER'S MAGAZINE.

A SHORT STATEMENT OF VARIOUS MEASURES,

CALCULATED FOR THE

IMPROVEMENT OF THE COUNTY OF CAITHNESS,

CARRYING ON IN THE COURSE OF THE YEAR 1802.

THE Account which was publiſhed about twelve months ago, of the Improvements carrying on in the County of CAITHNESS, *anno* 1801, having met with a very favourable reception, I am thence induced to continue the ſame plan for the current year 1802. The utility of ſuch ſtatements can hardly be queſtioned. They ſerve not only as memorandums to the inhabitants of the diſtrict to which they relate, inciting them to perſevere in the plans therein ſuggeſted, but they alſo furniſh a number of uſeful hints to other places; and they have a ſtrong tendency to excite a general ſpirit of Cultivation and Improvement, throughout the whole country. On theſe grounds, I hope that the publiſhing of ſuch Annual Reports, inſtead of being confined to this remote County, will ſpread over the kingdom in general.

1. The *Trial for Coal* at Scrabſter, unfortunately has not hitherto anſwered; but there is ſtill reaſon to hope, that deeper bores may be ſucceſsful. In the interim, ſeveral Gentlemen in the county have employed a ſkilful Surveyor to ſearch for other Minerals on their reſpective eſtates; and he has already diſcovered conſiderable quantities of Marl and Limeſtone; alſo Clays, valuable for making Bricks and Tiles, and for Potteries. Some Manganeſe, and Lead Ores, have alſo been found. The particulars of the whole will be laid before the public, as ſoon as the ſurvey is finiſhed.

2. An act for *Making a Harbour* at Thurſo, having paſſed in the courſe of the laſt Seſſion, that important undertaking is to be ſet about, as ſoon as a proper contractor for executing the ſame can be got. It is intended to make the Harbour as complete as poſſible, ſo as to admit veſſels of from 300 to 500 tons, at leaſt in ſpring tides; alſo to have a Graving Dock, a Regulating Weir, and a Slip for Ship-building. The whole expence will probably exceed 10,000l.; but it is deſirable to lay a foundation for that extenſive commerce to which Thurſo, from its ſituation and other advantages, ſeems to be ſo juſtly entitled. About twenty houſes have been already built in the New Town of Thurſo, and about twenty more will probably be erected next year, in addition to a number of houſes recently built in the Old Town; ſo that accommodation will ſoon be found for thoſe who may be inclined to ſettle in this thriving place, and to carry on commercial, and other branches of induſtry. Such is the ſpirit of improvement in that neighbourhood at preſent, that ſome incloſed land near Thurſo has let, on a ſhort leaſe, as high as five pounds per acre. On a leaſe of twenty-one years, a field of five acres has been let for five guineas per acre for ten years, and ſix pounds per acre during the remainder of the term.

3. The *Herring Fiſhery* on the coaſt of Caithneſs was rather more ſucceſsful this year than the laſt, above ten thouſand barrels having been caught. Had the propoſed harbour at Wick been erected, which we truſt will be the caſe next year, the fiſhery would of courſe have been carried on to a much greater extent. Some caſks, of different ſizes, were cured in the Dutch ſtyle, and, it is believed, were of equal good quality: But it is impoſſible to carry on that branch of the fiſhery with much ſucceſs, until harbours are made upon the coaſt, to accommodate, and, in caſes of neceſſity, to ſhelter, the perſons who may engage in the deep-ſea fiſhery.

4. The celebrated paſs of the *Ord of Caithneſs*, of which Mr Pennant, in one of his northern tours, has given ſo terrific, but ſo juſt a deſcription, has long been remarkable for the ſteepneſs of the aſcent, and the danger of the road acroſs it. In conſequence of directions ſent by Lord PELHAM to Lieutenant-General VYSE, it was ſurveyed this Summer by that excellent engineer Mr CHARLES ABERCROMBIE, who has diſcovered a mode of conducting the road without the ſmalleſt difficulty

or

or danger; and the aſcent, inſtead of being ſo uncommonly ſteep, will not exceed one foot in thirty, in any part of it. There is every reaſon to hope that ſomething effectual will be done for the Roads and Bridges of the North, in the courſe of the enſuing Seſſion of Parliament.

5. The *Eſtabliſhment of Various New Branches of Manufacture* are in contemplation, ſeveral propoſals having been given in for that purpoſe; in particular—for an Woollen Manufacture—for the Spinning and Weaving of Hemp—for the Making of Bricks and Tiles—for the Manufacture of Soap and Candles, &c. &c. Ship-building has already begun at Ham, and a Roperie at Caſtlehill. The branches formerly eſtabliſhed in this county have ſucceeded ſo well, that a gentleman in the ſouth of Scotland, who had taken a ſhare in them, to the amount of 25l., and who probably never expected to hear of it again, was lately agreeably ſurpriſed to be informed, that he might receive 65l. for his ſhare in the concern.

6. Some farmers from the ſouthern parts of Scotland, have already taken farms in Caithneſs, and more are expected. There is every reaſon to believe, that when the prejudices againſt a northern ſoil and climate are removed, numbers will be glad to ſettle in a diſtrict where they will enjoy many advantages, amply compenſating for any inconveniences to which they may be ſubjected. An excellent ſyſtem of improvement is now adopted; that of letting the old ſtock land, and a part of the adjoining commons, to ſubſtantial farmers, on improving leaſes; and then to divide the remainder of the commons among the ſmaller tenants, whom it is neceſſary for that purpoſe to remove. By theſe judicious meaſures, the population of the country is preſerved, whilſt its improvement will be rapidly accelerated.

7. The *Cultivation of Waſtes* is going on with ſpirit, and with as much ſucceſs as could be expected, in a ſeaſon ſo little calculated for improvement. One proprietor has ploughed between 500 and 600 acres of waſte land; the whole of which, and even more, would have been under crop this year, had the weather been favourable. The plan of dividing commons, alſo, by a ſubmiſſion to the gentlemen in the neighbourhood, is found to anſwer. An extenſive and valuable tract, amounting to about 2500 acres, has been divided this year, at a very moderate expence; and another,

exceeding 4500 acres, is now in the ſame train. An opportunity is thus afforded, of providing for the ſmaller tenants, who muſt be removed, where farms are enlarged; and alſo of ſettling any diſbanded ſoldiers, and others, who may be inclined to cultivate waſtes at home, inſtead of flying to the wilds of America.

8. The moſt extenſive experiment tried, in cultivating waſte land this year, and ſucceſsfully carried through, was as follows: On the 7th of April laſt, five men from Weſtmoreland, accuſtomed to paring and burning, began to pare, with the breaſt-plough, a tract of common containing about 80 Scotch acres. A ſufficient number of hands were, at the ſame time, employed in ſurrounding the whole with a ditch, and ſubdividing it by croſs drains, into four encloſures. In ſuch a ſeaſon, when hardly a peat could be got ſufficiently dry for uſe, it was impoſſible to expect, that the land, thus pared, could be burnt in proper time for cropping. However, by great exertions, in the ſhort ſpace of about five months, the whole 80 acres were pared, burnt, incloſed, ſubdivided, ploughed, and partly ſown with rape, turnips, &c. The ground thus brought into cultivation, was ſet up to auction, to ſee what it would fetch; and was let, on a leaſe for 21 years, for 20 ſhillings per acre; with an increaſe of 5 ſhillings per acre, at the end of the firſt ten years. The expence of this improvement may be thus eſtimated:

1. Paring and burning per Engliſh acre -	L. 1	17	0
2. Spreading the aſhes - -	0	3	0
3. Ploughing for ſeed - -	0	10	0
4. Harrowing for ditto - -	0	3	0
5. Encloſing and ſubdividing into fields of 22½ Engliſh acres each, with a ditch and a ſod wall - - -	0	15	0
Total per Engliſh acre -	L. 3	8	0
6. One fifth additional, to aſcertain the expence per Scotch acre, - -	0	13	6
Total per Scotch acre -	L. 4	1	6

—In a favourable ſeaſon, the firſt crop would have paid all the expence, both of the cultivation and encloſure; but if

if it did not, there is ſurely ſufficient inducement to improvement, if, at an expence of about 4l., you can have an increaſing income of 20 ſhillings per acre. By the above plan, the landlord runs little riſk; he merely carries on the great outlines, leaving the minuter details to be managed by an active and attentive huſbandman, who is much more likely to do juſtice to the progreſs of the improvement, than any proprietor, were he even conſtantly reſident upon the ſpot.

9. The laſt Spring and Summer were ſo hoſtile to every attempt, the ſucceſs of which depended on the operation of fire, that it retarded much the progreſs of the Fen huſbandry in Caithneſs. Notwithſtanding every diſadvantage, however, between 200 and 300 acres have been pared with the Fen Plough, and about 50 acres burnt, and laid down with Rape, Chicory, Graſs Seeds, &c. After the aſhes from the firſt paring and burning have been ſpread, it has been found a moſt uſeful practice, to uſe Cooke's Cultivator, ſo as to bring the land into good tilth; and this plan is particularly neceſſary if new land is cultivated on the Fen ſyſtem. Where this inſtrument was uſed, which was to the extent of about 20 acres, the rape and graſs ſeeds are particularly promiſing.

10. Many tracts of waſte land have *a ſterile cruſt* on the ſurface, generally of a peaty nature, and, conſequently, eaſily burnt, while the ſoil below is commonly clay, and capable of being rendered fertile. Some lime the ſurface of ſuch ſoils; others bury the cruſt by trench ploughing—both of them tedious and expenſive operations. But the true mode is, *to extirpate the principle of ſterility*, by the following proceſs: During Winter, plough the land three or four inches deep, ſo as to reach the clay; croſs-plough it in Spring; and, as ſoon as the clods are dry, burn the whole ſurface in large heaps, ſpread the aſhes, and ſow oats, beer, turnips, rape, or graſs ſeeds, according to the ſeaſon during which the burning can be accompliſhed. About 12 acres were treated in this way, and at once brought, from being coarſe, rugged, and barren, into a capital ſtate of tillage and fertility. The expence did not exceed 50s. per acre.

11. There is no ſoil naturally more unproductive, nor more difficult to render fertile, than a cold and coarſe clay. The uſual mode of improving that ſoil, is, by a ſtrong doſe of lime,

lime, which, including the expence of carriage, cannot be calculated at leſs than from 5l. to 10l. per acre. From ſome experiments tried in the central counties of England, there was reaſon to believe, that burning the whole ſurface of ſuch a ſoil, was a cheaper and better mode of improvement. As this was a moſt material point to aſcertain, it was intended to make a trial on a large ſcale; but, owing to the uncommon wetneſs of the ſeaſon, only five acres could be completed. The expence was as follows:—

6 tons of coal and culm, at 16s. per ton -	L. 4	16	0
Carriage of ditto from the ſhore to the field -	0	10	0
40 cart load of peats, at 1s. each - -	2	0	0
Additional expence of carriage, 13 of theſe cart-loads being brought from a conſiderable diſtance - - - - - -	1	1	0
126 labourers (including women and boys) for gathering and burning the ſods, at 1s. on an average - - - - -	6	6	0
Spreading the aſhes, at 6s. per acre -	1	10	0
Total -	L. 16	3	0

—or about 3l. 4s. 6d. per Scotch acre. Every thing is here ſtated at the higheſt rate; yet there is hardly any mode (unleſs in the immediate vicinity of dung or lime) where that kind of ſoil could be made equally productive, at double, or even triple the expence. It is proper to remark, that the beſt mode of burning the clay, is in ſod kilns, ſimilar to thoſe in which they burn limeſtone in ſeveral diſtricts.

12. A number of other Agricultural Experiments have been tried, in the courſe of this year. They are too numerous to be detailed in a paper of this deſcription; but, the reſult of ſome of the moſt important of them, it may be proper briefly to mention. 1. It appears that Winter wheat is a much hardier grain than Winter rye. 2. Winter tares cannot be depended on in the northern part of the iſland; but they may be ſown early in Spring with much advantage, and anſwer better than what are called Spring tares, being much hardier. They ſhould be ſown, however, immediately after the land is ploughed. 3. There is reaſon to believe that carrots will anſwer on fen or moſſy land, if

a ſufficient quantity of aſhes is ſpread on the ground where they are ſown; and it is probable that lime, and other manures, may raiſe that valuable crop on peaty ſoil. 4. It is deſirable to cultivate oats having only one pickle, inſtead of two or three. * The grain is plumper, ripens earlier, and is much leſs liable to ſhake: the ſample, alſo, is more equal, and, conſequently, muſt fetch a better price at market. 5. An acre of moſs land, after being pared and burnt, was ſown, on the 30th of May, with graſs-ſeeds alone, (red clover, rye-graſs, with a ſmall mixture of other graſſes), and on the 30th of September it was fit to mow. The plan of laying down land, even in good heart, to graſs, without a crop of grain, cannot be too ſtrongly recommended; but it would ſeem to be a ſyſtem peculiarly well adapted for new lands. 6. It would appear, that the northern parts of Scotland produce peat, the aſhes of which is equal in quality to the Berkſhire, when burnt by the ſame proceſs. 7. Chicory is likely to prove a valuable addition to Britiſh herbage.

13. Some Extenſive Improvements have been recently made in this county by *Draining*, in particular at the loch of Duren, where a great tract of valuable land, and an inexhauſtible quantity of the richeſt marl, have been ſecured by two ſpirited proprietors, at a very moderate expence. Similar uſeful undertakings have alſo been carried on at the dam of Achingils, and the moſs of Wydell.

14. A variety of other means of improvement are in contemplation. Regular tryſts, for the ſale of cattle, are to be eſtabliſhed. Inns, where ſtill wanting, are to be built, partly on the principles of a tontine, and partly on the plan, that the freeholders, and other proprietors of the county, ſhall each ſubſcribe a certain ſum annually, towards paying the rent of an attentive innkeeper, till it appears that the profits of his buſineſs will enable him to go on without that aſſiſtance. An application is made to the Poſt-Office to have a daily poſt eſtabliſhed, inſtead of the preſent mode of only three times

* The barley corn oat has in general many ſpecimens of this ſort of grain with one pickle. It is alſo mentioned in Mr Lowe's Agricultural Survey of Nottinghamſhire, p. 23. '*Oats are picked by hand by curious perſons for ſeed. If the top one is a ſingle oat, the reſt on that ſtem will be ſo: the double ones are rejected.*'

a week. * Some villages are planned out for carrying on the fiſheries, and different branches of manufacture. An application has been made to Government, requeſting that Circuit Courts may be held, at leaſt once a year, to the north of Inverneſs, which, in various reſpects, would promote the improvement of the more northern counties; and a petition will be preſented, as ſoon as the new Parliament aſſembles, complaining of the degrading ſituation in which the county is placed, ſending, only alternately with Bute, a member to the Imperial Parliament, and, conſequently, being every ſeven years totally unrepreſented.

Such are the meaſures now carrying on in this Northern Diſtrict. If perſevered in, and ſucceſsfully carried through, there can be little doubt that the County of Caithneſs, however remote, and at preſent almoſt inacceſſible, will ſoon reach a very high degree of proſperity and of improvement. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

In confirmation of what is ſaid by your ingenious correſpondent A. S. (vol. iii. p. 446) concerning the recent introduction of ſquirrels into this country, I beg leave to hand you the ſubſtance of a caſe which came before the Baillie-court of the metropolis about the beginning of laſt century.—A gentleman in India having ſent home a ſquirrel to his friend in Edinburgh, the ſame, after being landed at London, was ſhipped aboard one of the Leith traders; but unluckily the cage, in which the animal was forwarded, having been ſome how or other left open, it got out, run about the decks, and finally fell into the ſea, and was drowned. An action of damages was inſtantly brought againſt the ſhipmaſter before the Baillies; and one of them, a man of great ſagacity, interrogated the ſhipmaſter, 'Why he did not clip the bird's wings?' 'Pleaſe your honour,' replied the ſhipmaſter, 'the animal was a quadruped.' 'Quadruped here, quadruped there, no matter; I decern that you ſhall pay the bird.' And the deciſion was thought ſo juſt, that no advocation followed. Yours, &c.

AN ANTIQUARY.

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* This plan has been agreed to, and will be a great convenience and ſource of improvement to the northern diſtricts of the kingdom. Were the poſt to go by the Highland road, and on horſeback to Thurſo, which it is to be hoped will ſoon be the caſe, a letter might be conveyed from Edinburgh to Thurſo in two days, inſtead of five or ſix, the time required at preſent. What an advantage would it not be, to have ſo ſpeedy a circulation of intelligence from one end of the kingdom to the other!

BRANCH II.

Review of Agricultural Publications.

Statiſtical Survey of the County of Kilkenny, made, in the year 1800 *and* 1801, *by William Tighe.* 644 *pages, with an Appendix,* 119 *pages. Dublin: Printed by Graſberry and Campbell.*

Many perſons ſeem inclined to think, that the chief benefit derived from the inſtitution of a national Board of Agriculture, in Great Britain, was the general ſurvey, made under its authority, of the ſtate of huſbandry in the ſeveral diſtricts of which the iſland is compoſed. Before the publication of theſe ſurveys, farmers in different counties were almoſt equally unacquainted with the cuſtoms and practices of their brethren in other quarters, as with thoſe of foreign lands. Hence the inſtitution proved a benefit to agriculturiſts, though, perhaps, not to the ſame extent as was ſanguinely expected, when the Board was originally inſtituted.

Taking it, therefore, as granted, that the ſurvey made of Britiſh huſbandry has proved beneficial to the public, we congratulate our Iriſh brethren upon the like buſineſs being taken up among them. The Farming Society of Ireland, whoſe laudable endeavours to promote improvements were noticed in our laſt Number, are the directors in this affair, and we believe it could not have fallen into better hands. Few people in this country know any thing of Iriſh huſbandry, and as this is the firſt ſpecimen of the Society's reſearches which has reached us, we ſhall devote a larger ſhare of our journal to an examination thereof, than is conſiſtent with the variety which we uſually preſent.

Kilkenny is an inland county, ſituated in the ſouth-eaſt quarter of Ireland, containing about 318,000 plantation, or 410,000 Engliſh ſtatute acres, and 100,000 inhabitants, the greateſt part of whom are Roman Catholics. From vicinity to the ſea, the climate is mild, and harveſt proves generally a week or two earlier than in theſe tillage counties ſituated to the northward. The nature of the ſoil is ſuch, that, with proper treatment, the greater part of it may be made to produce good grain or excellent herbage. Some of it is a mooriſh turf, incumbent on white or yellow clay; other parts are of a light ſoil, covering an argillaceous ſhiſtus, and a conſiderable proportion is of rich clay, loam, and

light gravel, on a limeſtone bottom. Coals are very plentiful, and of excellent qualities; and limeſtone, on which a great breadth of the county is incumbent, may be had with facility, and on reaſonable terms.

On the minerals of the county Mr Tighe is unneceſſarily diffuſe, no fewer than 88 pages being taken up with this ſection. An account of Caſtlecomer colliery will throw ſome light upon the coal-trade of the county.

'In the year 1800 there were ſixteen pits at work together in the Caſtlecomer colliery: this is about the average number; it is many years ſince twenty-four pits were worked at the ſame time, and the ſmalleſt number that has been known is twelve. From a pit there is uſually raiſed from 20 to 30 barrels a-day of coal, independent of culm. The proprietors are at the expence and hazard of ſinking pits; this is the principal charge to them under the head of contingencies, in which is alſo included the purchaſe of timber, penſions to diſabled colliers, and other articles. An abſtract is returned every week of the accounts by the agent of the collieries, in which, whenever the expences of ſinking are high, the proprietors find a balance againſt them; this, ſeems, therefore the principal point to be attended to; if the *views* of the pits can be made more extenſive, while air is communicated to a diſtance under ground, by very eaſy methods, and while advantage is taken of every deſcent of the beds for the cheaper conveyance of loads to the ſhafts; if the ſinking is never undertaken but under the direction of experienced perſons, and conducted on ſcientific principles, great ſavings may be made in this article. It happens ſometimes that, coming to *a fault*, or ſtriking upon it in ſinking, colliers proceed blindly, and miſs their aim, or are obliged to abandon the work, or ſeek for aſſiſtance, after having incurred unneceſſary expence and labour.

'Sinkers are ſometimes paid by the yard, the coſt increaſing with the depth; or elſe they receive, which is more uſually the caſe, from 18d. to 20d. a-day, and maſter-ſinkers, who direct the work 2s. a-day. Sinking a pit will ſometimes take two or three months, ſometimes much longer; and on ſome even a year has been employed: The men work night and day from ten to twelve hours at a time; forty men are ſometimes required to a pit when there is a great deal of water, in which caſe, there muſt be a ſtage and two ſets of pullers, who keep four buckets at work; each pair of buckets demands the attention of ten men, who relieve each other. If ſuch a pit is deep, it will coſt above 200l.; the expence of pits has varied from 30l. to 300l. and ſome have been made at a great expence without any advantage. There was one lately ſunk which coſt

coſt 200l.; at the depth of 28 yards a bed of coal was found but 8 inches thick, and it was thought in vain to proceed any farther.

'A pit once completed is taken by a maſter-collier, who, beſides the 3s. a barrel receives the price of half the culm, which is ſold by clerks, and divided with the proprietors: the maſter and the men whom he employs conſtitute a crew; according to the difficulty of the work they vary from 30 to 40 men; 35 is not an unuſual number, beſides a horſe to a gin for raiſing water at 4s. 4d. a-day.

'The crew are divided into *colliers*, whoſe pay has been lately raiſed from 18d. to 20d. a-day, of whom a pit requires from 20 to 24; *hurriers*, whoſe pay has been raiſed from 10d. to 18d. and of whom there are generally 4, but ſometimes 3; *thruſters*, uſually 3, ſometimes 2, at the ſame wages; and *pullers*, from 4 to 5, at 13d. a-day.

'The colliers are again claſſed into *clearers*, *cutters*, and *breakers*; the firſt clear away the ſlate from the top of the coal, with a pick adapted to the purpoſe; the ſecond, with a cutting pick, which is a larger inſtrument, ſeparate the ſides of the maſs from the *backs*, by which the beds are divided; and laſtly the breakers drive their wedges in at the bottom of the coal, which, falling out, is loaded into a bucket, holding about 3¼ cwt. placed upon a ſmall ſledge, which, by an iron bar hooked into a ring at the front, is drawn by the hurriers to the bottom of the pit, while the thruſters puſh it behind; the bucket is raiſed by the pullers, and, as ſoon as it is landed, is placed on a ſmall ſledge, ſimilar to the one below, and the coal drawn to the pile, at a little diſtance from the pit; beſides theſe men, a ſcavenger attends each pit at 13d. a-day.'

It would appear that the Iriſh colliers are much like their brethren in other countries. The following extract will ſhow their wretched ſtate.

'Wheaten bread is the principal food of the colliers; this they take down with them into the pits, and a twopenny loaf ſerves for a meal; bread is baked in the colliery, and the flour brought from Ballyragget or Ballinakill. Their earnings are generally conſumed in the purchaſe of ſpirits; this ruinous habit, to which their mode of labour in ſome degree leads them, is the cauſe that, though their pay is higher than that of any other workmen, yet, in appearance, they are the moſt wretched perſons in the county. Their houſes are ruinous, generally built as well as covered with ſods, upon which heavy ſtones are ſometimes laid, to prevent their being blown off: chimnies and windows are luxuries deemed unneceſſary. The children are numerous, but uſually quite naked, the parents dirty and ill-clad, and, what is worſe, the colliers are, independent of accidents, unhealthy and ſhort-lived; they ſeldom arrive at fifty years of

age. A conſumption of the lungs is the diſorder of which they uſually die; for a year or two before which event, they often throw up continually a black ſpittle: thoſe who work in wet pits live longeſt, as they do not ſwallow ſo much of the volatile duſt of the coal. The leaning poſture in which they work is unfavourable to health, as the muſcular action is conſtrained and partial, and the play of the lungs impeded: many do not ſurvive it for ten years, though there are peculiar inſtances of workmen that have been in the collieries for forty.

'In the deſcription of ſoils, it was omitted to include the mountain-land, which is of great extent, and remains moſtly unimproved. Nature, however, has not left this tract without the means of improvement; for marl, and pits of limeſtone-gravel are found in it. Mr Robert St George, an active agriculturiſt, ſtates his operations with clearneſs and preciſion.

'I will give an account of the improvement made by me and by Mr Carroll on the lands of Knocknamuck, 330 acres of which, when I purchaſed them in the year 1792, were inhabited by different families, who were not able to pay the ſtipulated rent of 7s. per acre. This farm ſtood in 12s. 9d. per acre, and having had it under improvement for three years, I let it to Mr Carroll for 28s. 9d. per acre, for 300 acres, to finiſh the improvement. A part of this land was in very poor worn out oat-ſtubbles, part in poor *coſheers*, as termed, land which had been burned and tilled for as many crops as it would bear, then left to nature; by which means it was covered with a mat of couch-graſs, and was very barren, having been ſome years out of tillage, but the greater and more valuable part of all was in heath, and had never been in tillage; had a black peat of from four to eight inches deep over a ſtiff clay, called *lac leagh*, from two to four inches deep, and that in ſome places over a black ſlaty rock *; in others a limeſtone-gravel. This heathy land was retentive of the rains from its matted roots, and the *lac leagh* underneath the peat, and was not conſidered worth above half rent for cattle, or 6s. per acre. The ſtubble land was of a clayey nature over ſlaty ſtone, and in part over limeſtone gravel. This I fallowed for a whole year by four ploughings, and as many harrowings to clean it of all weeds, and prepare it for laying down in ſpring; which I did, after laying on 200 barrels of roach-lime, ploughing it in lightly, then harrowing it when ſlacked in the earth, by which means it was moſt comlpetely mixed with the ſoil; then ſowing two barrels of clean rye-graſs to the acre, with ten pound of white clover-ſeed mixed with it, being the ſeed moſt natural to this kind of land, where lime has its greateſt effect. I paired with the plough, and burned a large tract of the heathy part, then laid on a coat of limeſtone-gravel from a pit ſunk for the purpoſe on the hill, ſpread the aſhes

* Called in Iriſh, *ſligga*.

aſhes and gravel, ploughed it in, ſowing rape on it, which ſtood for a crop, and turned out tolerably well. The next winter it was limed, about 160 barrels to the acre, ploughed in, and a crop of oats ſown, which had a great return of ſtraw, but little grain, being too rank, and the land on too expoſed a hill for it to ripen well. I purſued the ſame courſe with it in ploughing and liming, but let out to graſs with rye graſs-ſeed, ſowing the land with rape, which I found to afford ſhelter and ſhade to the young graſs; then turned in my ſheep to eat it down. This mode I prefer to letting the rape ſtand for ſeed, or to ſowing corn, as the crops do not pay in an expoſed ſituation, near as much as the rape in feeding from five to ten ſheep to the acre all the ſummer, and the graſs-ſeeds doing much better by the manure of the ſheep, inſtead of the land being exhauſted by a crop. Mr Carroll has had this land five years on his hands, draws limeſtone up the mountain a quarter of a mile to two lime-kilns, which I built a-breaſt, to turn out about fifty barrels in twenty-four hours. They have been always kept burning ſince the year 1792, except about four of the winter months. I am happy to ſay Mr Carroll has almoſt completed the improvements, and I hope it will, with other hills of the ſame nature which he has improved in the county of Tipperary, remain an advantage to his poſterity, and a monument of his meritorious induſtry.'

In the account of the mode of culture practiſed in the arable part of the county, we diſcover that the ſyſtem adopted is radically wrong, too much being devoted to the plough, and too little attention generally paid to the management of live ſtock. Theſe two branches of rural economy are not made ſubſervient to each other, which, in every juſt ſyſtem, ought certainly to be the caſe. Upon tillage-farms, the growth of wheat appears to be the ſole object in view, while, in dairy farms, the plough is altogether neglected, which prevents ſuch farms from being ſupplied with winter provender. There may be exceptions to every rule; but, while we reprobate inceſſant tillage, we are equally hoſtile to the perpetuation of graſs. By mixing the ſyſtems, or adopting what is called alternate huſbandry, the greateſt poſſible advantage may be drawn from every kind of ſoil, and the beſt farmer will of courſe be the beſt judge how often, and when, the alternation ſhould take place.

Our ſentiments on theſe matters are, in a great meaſure, in uniſon with thoſe held by the author of this work, who ſeems a ſtrong advocate for intermediate crops of green food. An extract from the ſection on the *mode of culture*, will exemplify the opinions held by him reſpecting the imperfectneſs of common huſbandry.

'The

'The vicinity of markets, the quality of ſoil, and the difference of expoſure, determine farmers in the choice of ſuch a mode of culture as appears to them beſt adapted to their ſituation: but, applying their mind ſolely to one branch of rural economy, they are apt to neglect every other, which ought to accompany it, and be made ſubſervient: the cultivator, whoſe object is to pay his rent by corn, diſregards the management of ſtock, and conſequently neither prepares his ground in the beſt manner for wheat and barley, by intermediate crops of green food, nor adds to his exhauſted fields new ſources of fertility by the manure of his yards: even when one ſpecies of corn appears to him moſt profitable, all other products of the ſoil are deſpiſed; if wheat can be raiſed by any means, no matter whether the ſpring corn be productive or not; and where the ſituation ſeems to ſuit better, the more lazy occupation of ſuch dairies as are never ſupplied with artificial graſſes, or even with winter provender, where cattle have neither ſtraw nor ſhelter, the plough is laid aſide, as an inſtrument almoſt uſeleſs, and not likely, in any reſpect, to increaſe the quantity of butter or of pork.

'Theſe reflections are ſtrongly exemplified in this county, whoſe ſurface is principally occupied in three different ways: in one part, the farmer calculates upon paying his rent by wheat alone, in another by oats, and in a third by the produce of a dairy. The beſt ground, the greateſt part of which has a limeſtone bottom, is dedicated to wheat; this culture is the predominant object in the central and weſtern parts of Gowran, in many farms near Kilkenny, in the ſouthern portion of Crannagh, the whole of Shillelogher, in the greateſt part of Kells, including the liberties of Callan, and in the northern ſide of Knocktopher; it is more partially cultivated in the weſtern part of Faſſadinan, in the lower grounds of Galmoy and in the adjoining part of Crannagh; as well as in the ſouth of Iverk, and part of Idaugh. The culture of wheat has latterly extended up ſome of the hills of Idaugh and Knocktopher, and other high grounds, where, a few years ago, oats were the only grain ſown: ſtill, however, the more mountainy tracts of Iverk, Idaugh, and Gowran, together with ſome of Crannagh, and of the northern part of the county are, as far as they are tilled, devoted to the culture of no crop but oats.

'There are two diſtricts peculiarly given up to the dairy; one includes that portion of the county uſually called the Welch mountains, forming the eaſtern and ſouthern part of Knocktopher, and running into the barony of Idaugh, covering a ſpace of about eight or nine miles in length, and from four to five in breadth; the other comprehends the principal part of the extenſive pariſhes of Comer and Mucullee, with ſome lands to the ſouth of them, compriſing about 30,000 acres.

'Much of this county having been, from time immemorial, ſubjected

jected to tillage, the farmers have derived their practices from a period when none of the modern improvements were yet ſuggeſted; and finding themſelves in general ſtill able not only to pay their rent, and to ſubſiſt without difficulty, but, by the increaſing value of corn, to acquire additional profits, they have little thought of making any alteration in the old Iriſh huſbandry, though the cultivators of ſome of the neighbouring diſtricts in Tipperary and Wexford, where tillage did not extend to ſo great a degree, until it was accompanied by a ſyſtem ſomewhat improved, and a little better underſtood, have in ſeveral points ſet them a laudable example; agriculture is, therefore, upon the whole, in a worſe ſtate here than in ſome of the adjoining counties; and little information can be expected from the recital of practices long condemned by the intelligent farmers of the modern ſchool: that mode of cultivation is indeed too well known in Ireland, by which a ſoil naturally fertile, but exhauſted by repeated crops of corn, is abandoned to noxious weeds for ſeveral ſucceeding years; is again broken up, ſlightly manured, exhauſted, and again abandoned, where culture, inſtead of improving, deteriorates; where no effort is made for permanent utility; where every operation of the farmer, and every work of the farm, is juſt calculated to meet the preſent neceſſity, and no more; where the different branches of rural economy, ſo far from aſſiſting each other, remain unconnected and diſtinct, in a ſtate of unnatural repulſion.

'This deſcription, however, admits of much alleviation: many gentlemen, and ſome intelligent farmers, have adopted practices founded on better principles; and have applied their minds to the improvement both of tillage and of ſtock, in a manner which, while it contributes to their own advantage, will confer an eſſential ſervice on their country: this ſurvey, then, ought to ſketch the common modes of agriculture, and to notice, wherever they occur, the improvements that have taken place.

'*Wheat.*—This grain is almoſt always ſown either after fallow, or after potatoes; but as ſcarce any more potatoes are cultivated than are neceſſary for the conſumption of the inhabitants, by far the greater part is ſown in the former way, either with or without lime; and the produce after a good fallowing is reckoned to be at leaſt one-fourth more than after potatoes. When wheat is to be raiſed upon potatoe-ground, the field is ploughed and harrowed as ſoon as the crop has been dug out, and the grain ſown moſt uſually under the plough: one diſadvantage attending this practice is, that it is often ſown too late; and that is a principal cauſe of the ſuperiority obſerved after a fallow; this name, however, is often given to potatoes by farmers, being the only fallow crop they are acquainted with.

'Fallows

'Fallows are always treated in the ſame manner; a ſtubble is uſually grazed during the winter, and often not ploughed up before May, or as ſoon as all the buſineſs of the ſpring-tillage is over; in this firſt ploughing, the crowns of the ridges are turned into the former furrows or interfurrows; thus they lie until midſummer, and often much longer, when they are ploughed for the ſecond time, and this plouging is generally preceded by a harrowing with a heavy or loaded harrow; another harrowing is given previous to the third or ſeed-ploughing, which takes place about Michaelmas: the mode of ſowing is by dropping the ſeed along the ridge, and is often done by women, which is tedious, in compariſon with the proper manner of caſting it.

'It generally happens that the ridges of the ſecond crops are reverſed, the furrow occupying the place of the crown of the ridge; but this is not an object with the farmers from ſyſtem; no more than is the direction in which the ridges lie, nor even an attention to make them ſtraight and parallel: if they ran from north to ſouth the corn would probably ripen better together, from receiving a more equal diſtribution of the rays of the ſun.

'Some ſtubbles near Gowran do not get their firſt ploughing until June, and that is often a very partial one, merely opening the tops of the ridges, and turning them down towards the furrows, the greater part of the ground remaining unſtirred; in this ſtate they lie for three or four weeks, until it may ſuit the farmer's convenience to go over them again; after which it is well if they receive a croſs-ploughing before autumn, or previous to ſeed-time; the two firſt ploughings are ſometimes reckoned ſufficient: this can hardly be called fallowing; the ſummer-weeds are left growing very partially covered in the furrows, where they often ſhed their ſeeds before the ſecond ploughing. Some ſtubbles in the neighbourhood of Kilkenny had not got their ſecond ploughing until the end of Auguſt, previous to which moſt of the weeds whoſe ſeeds were brought near the ſurface by the firſt ploughing, had vegetated and gone to ſeed.

'The beſt farmers graze their ſtubbles only until Chriſtmas, and give them a firſt ploughing before the end of January, they croſs plough in ſpring, and never ſow wheat but after three earths.

'When ley-ground is intended for wheat, the practice of the beſt farmers is to break up the ſod about Michaelmas, or as ſoon after as they can; at which time it is thrown into broad ſets of about twenty yards wide; in April it is croſs-ploughed and harrowed, whenever the ground is dry; and, after midſummer, it receives the third ploughing, but when manure is to be put out, either lime or ſea-ſand, it is ſpread on the ſurface previous to this ploughing, and thus mixed with the ſoil before ſeed-time: the

corn

corn is ſown in the latter end of September, or beginning of October, in ridges of five or ſix ſods: the moſt common ſize of the ridges is five ſods; the turned ſod is about a foot, or rather leſs, in breadth: the drier the ground, the broader the ridges are often made; ſo that they occaſionally vary from four ſods to ſeven or eight.

'Ley ground is ſometimes not broken up until March, croſs-ploughed in June and July, harrowed in October, or as ſoon as it is convenient after harveſt, then ploughed, and, with another harrowing and ploughing, the ſeed is ſown.

'Good ley ground, however, has often been ploughed up at midſummer, croſs-ploughed and harrowed at Michaelmas, immediately ploughed again, and the ſeed ſown as uſual; one of the fineſt crops near Kilkenny, in 1801, was upon ground that had been mown the year before, the grain ſown on the back of the ſod, and trenched.

'When the ground receives a regular fallowing, the farmer ought to have a great crop, to indemnify him for two years rent, and the expence of ſuch a tillage, which, except the laſt ploughing at ſeed-time, is almoſt always performed with four horſes, who can ſeldom turn more than half an acre in a day, and that with great labour; for the ſoil, which is generally a clayey loam, becomes too hard, from being baked in the ſun, to be eaſily divided by an ill-conſtructed plough; if rain has preceded the ploughing, the land remains in clods like unburnt bricks, which are ſometimes broken with mallets, or with hurling ſticks, which have a large crooked head. In a few inſtances three horſes have been uſed in breaking fallows, but ſometimes even ſix: leſs than four bullocks are never ſeen on the lighteſt ground on any occaſion.'

Mr Tighe is an advocate for drilling corn-crops, though we rather ſuſpect that the practice cannot be extenſively diffuſed in the preſent ſtate of Iriſh huſbandry. Whether the drilling of wheat, barley, and oats, is an eligible practice, we are not now to diſcuſs; but in one thing we are certain, that the ground muſt be very highly cultivated before it can be introduced with advantage. We have uniformly maintained the propriety of drilling leguminous crops, but have great doubts reſpecting the propriety of extending the practice farther. The ſaving of ſeed, in the firſt inſtance, is not an object, becauſe it is balanced by the extra work required, and the crops ſown in the drill way are aſſuredly expoſed to greater danger than thoſe ſown by hand in the broad caſt method.

The Kilkenny mode of reaping corn is curious. It is executed by men, while women are the binders, which is directly the reverſe of the Britiſh cuſtom. The reaper takes three handfuls ſucceſſively

ceſſively in his left hand, and lays them together, two of which are ſaid to make a ſheaf. In this way the ſheaves muſt neceſſarily be very ſmall, which, no doubt, is preferable to the cuſtom of making large ſheaves, as followed, though very unwiſely, in many places. Six men reap an acre of wheat per day, and three women are required to bind it; but a greater number are neceſſary for barley and oats. Corn is uſually ſtacked in the field the day after it is cut (a cuſtom very prevalent in Great Britain about fifty years ago), removed home when properly winned, and built in large ſtacks. A few farmers mow their ſpring corn, but the ſickle ſeems generally uſed.

Our readers are not unacquainted that potatoes are extenſively cultivated in Ireland, but perhaps they are not aware that the lower ranks are almoſt wholly ſupported upon this root. It is ſtated, in this work, that a family of five perſons will conſume three ſtones of potatoes per day through the year, which is an extraordinary quantity indeed. They are eat with milk when it can be got; at other times, with a herring, and often ſimply with ſalt. Oat-meal appears to be ſeldom uſed; or rather, as an honourable gentleman ſapiently remarked, at a Scots county meeting, it is conſidered as a luxury; nor bread of any kind, when potatoes can be be got. No wonder, then, that Britain is deluged with oats, when the rate of markets permits a free importation to be made.

In deſcribing potatoe-huſbandry, the author does not convey much new information to us, and we were diſappointed at finding the curl ſcarcely mentioned. The mode of culture is principally with the ſpade, ſometimes in drills, and nearly the whole manure of the county is applied to this root. Scooping does not ſeem much approved of. An extract from the work will, however, elucidate theſe matters better than a curſory deſcription.

'Scooping the eyes is a practice well adapted to ſave food in the years of ſcarcity; but the reſults of the practice have been too various for the farmer to hazard his crop upon; in a dry ſeaſon, and in ground not very well tilled, they are liable, like the ſhoots, to be ſtarved, and, from their ſmallneſs, they require more attention in ſetting. From their form, however, they might be ſown by a drill-machine, which would ſave much labour. By planting ſcooped eyes, Mr Robert St George ſaved eight barrels in twenty, out of a mixture of large and middling ſized potatoes: the produce in a ſquare perch was ſeven pounds ſuperior to the common ſets, in ground well tilled and fine. Mr Sheckleton, of Caſtlecomer, tried them in 1800 and 1801; his ground was rich and well manured, adjoining to, and perhaps formerly a part of the churchyard: in the firſt year he ſaved half the weight of the potatoes, in the latter, three-fourths: he found them anſwer ſo well, that

he reſolved to purſue the method always: he planted ſhoots at the ſame time, which failed on account of the dryneſs of the ſeaſon. Scooped eyes plant a greater quantity of ground than the ſame potatoes cut into ſets, each eye being ſcooped out ſingle; common cuts have often two or three. To try the effect of ſmall ſets with ſingle eyes, the Rev. Dr Butler cut off the crowns of the potatoes, in which moſt of the eyes are lodged, and by this means ſaved the other half; each eye was cut out, making a ſmall ſet; ſeven acres were thus planted by twenty barrels of potatoes; nothing could be more productive; from twelve ſtone of *Barber's wonders*, the produce was thirty-four barrels; but he does not approve of ſmall ſets, or ſcoops; nor will he ever again plant them: he is convinced, that had not the rain fallen moſt critically, he ſhould have had no crop: he ſuppoſes that there is not ſufficient moiſture in the ſcoop to ſeed the plant, until it forms new glands: that, in moiſt weather, and in rich ground, the nourithment from the ſet may not be required; but in the generality of ground, in dry weather, the plant cannot thrive unleſs it has glands to ſupply it with moiſture at firſt. Add to this alſo, the plants being weaker are more liable to be attacked by the red worm, as was obſerved in ſome places.'

Several very intelligent communications reſpecting the mode of culture in various pariſhes are preſented; but we are ſorry that it is altogether out of our power to make extracts. Perhaps, on a future occaſion, we may lay ſome of them before our readers.

The courſes of crops uſually followed are far from being perfect, and one general ſucceſſion ſeems to be attempted, viz. fallow or potatoes, wheat, barley, on the beſt grounds, where the farms are large; and, in the ſmall farms, fallow is altogether omitted, and no corn ſown but after potatoes. In the poorer grounds, oats are ſubſtituted for wheat, and potatoes and oats are raiſed alternately for 14 or 16 years, when the ground is *let out* to graſs. In the wheat diſtrict, there are lands that have been cropped from time immemorial; and from ſome of them a crop of potatoes and five crops of corn are taken after one manuring. Our author feelingly cenſures ſuch abſurd management.

He ſays, page 279, 'According to the preſent management, particularly in the wheat diſtrict, the ſoil continually decreaſes in value, and the crops in goodneſs; lime, the only manure uſed in any quantity, diminiſhes greatly in effect every time it is applied; the greateſt part of the farm, which is *let out* (left in graſs), is rather waſte than paſture, and for many years totally unprofitable, after having been exhauſted; no ſtock is kept to make manure; no meadowing produced; the hay, even for the horſe-team, is bought, at a great price, from the low grounds, that cannot be tilled, near

rivers, or from gentlemen whoſe demeſnes are appropriated to this purpoſe.

Huſbandry-implements are far from being perfect. An old-faſhioned clumſy plough, drawn by four horſes, and ſometimes by ſix, very like the old Scotch plough, is ſtill in uſe; but we are glad to obſerve, that SMALL's improved Rotheram plough has found its way into the country, and truſt it will ſoon come into general uſe. This implement, which makes better work than any we have witneſſed, ſeems here to be provided with a chain, which indeed, for many years, was an appendage to it in our own country. It is now, however, generally laid aſide, from a conviction that it was an unneceſſary addition; wheel ploughs are alſo partially uſed. Rollers are nearly unknown; and, ſtrange to tell, "there is not a thraſhing-machine in the county, though it abounds with ſtreams in moſt parts calculated for water-wheels of every kind!"

We obſerve nothing particular in the ſection upon *Stock*, nor are we diſpoſed to think that much information, either on breeding or feeding, can be gathered from the practice of this county. We notice that milk-cows are often kept out during the whole winter, and foddered with hay, which is thrown on the ground to them. This is a ſlovenly and moſt waſteful practice, which ought to be prohibited by every landlord. The ground gets an imperfect manuring to be ſure, but is more injured by the poaching of the cattle, than benefited by the manure. So far the landlord is evidently concerned; the waſte of hay may be thought to be the tenant's buſineſs, but, if the tenant waſtes his hay, how can he pay the landlord his rent?

We obſerve, with much concern, that the uſe of green crops is almoſt unknown among the common farmers, but that their culture is aſſiduouſly attended to by a few reſpectable gentlemen. In theſe matters, Ireland, at leaſt this part of it, is little farther advanced than what Scotland was fifty years ago.

Farm-houſes and offices appear very incomplete. Indeed they mark, in the ſtrongeſt ſtyle, the little progreſs made in rural improvement. We lay it down as a truiſm, that the ſtate of farming, in every county, may be recognized by the condition of the buildings ſet apart for agriculturiſts. Hear what the author ſays on this ſubject.

'Farm-houſes are generally built of ſtone, but oftener cemented with clay than with mortar; ſome inferior ones are of mud, or of ſods, and ſome few have the foundation, or the lower part of the walls, of ſtone, the upper of ſods. Some of the beſt farm-houſes are ſlated, and this improvement has increaſed latterly; but for the moſt part they are thatched; ſome may be comfortable, but few are neat or cleanly. A decent houſe, let to a com-

mon

mon farmer, becomes in a year little better than a pig-ſtye. The houſes of rich farmers are generally far inferior to their means, and are ſuch as exempt them from window-tax, and often from hearth-money; but the greateſt failing is in the offices: the barn is generally a ſhed to threſh on, with no floor but the natural ſoil; the ſtable a hovel; a cow-houſe is often not to be found; no yard is appropriated to pigs; the corn ſtands alone to mark the farm: a ſhed to protect the implements of tillage was never thought of; the richeſt farmers always leave the plough and harrow in the corner of the laſt field they tilled; ſuch part of the harneſs as may not conſiſt of gads, or ſugans, is ſecured in the houſe; and with the ſmaller farmers, if the car does not ſtop ſome gap, called a gateway, it may lie againſt the ditch, or on the dunghill. The offices are ſometimes covered with potatoe-ſtalks, which form a very bad thatch.

'The bad ſtate and deficiency of agricultural buildings, and the unimproved condition of many farms, may ariſe from various cauſes; firſt, nothing is ever built or repaired by landlords; theſe expences, as well as every other improvement, is left to the tenant, who generally comes into a delapidated holding, without capital enough to ſtock it, ſtill leſs to build, to fence, or to drain. Secondly, there is often a want of confidence between the proprietor and the occupier. Thirdly, there is generally in the tenant a diſpoſition to make that anſwer again, which anſwered in ſome degree before; and, if it fails, to look for a temporary ſhift, which he thinks will "do well enough." To attempt diſcuſſing the primary cauſes of theſe two latter impediments to improvement, would be to enter into political not ſtatiſtical obſervation: if the landlord appears ſometmes not to give prudent attention, or an intelligent and liberal ſuperintendence, the tenant appears to want ſettled views and a contented diſpoſition. To deſpiſe the goods in his power may be philoſophic; but it is the philoſophy of a cynic. True philoſophy aims at progreſſive improvement; without that deſire, man becomes brutal, and loſes the only good quality of a rational being.'

The moſt prevalent tenure on which land is occupied by tenants is 31 years, or three lives, which our author conſiders not to be beneficial; and in this idea we concur with him. Life-renters of land, like proprietors who poſſeſs under ſtrict entails, ſeldom make any improvements, conſequently ſuch tenures are hoſtile to the public good.

Our author is unfriendly to the tithe ſyſtem, and, like every other man who has examined the buſineſs with attention, and is not intereſted in continuing the abuſe, thinks a collection of tithes in kind, or an annual valuation, injurious to agriculture.

We

We ſhall conclude our review of this intereſting publication with the ſubſtance of his ſentiments on this obnoxious burthen.

'Tithes are uſually paid by compoſition: the articles paid for, and their uſual rates at preſent are, *wheat* and *bear* 10s. per acre; *barley* 8s. to 9s.; *oats* 5s. to 8s.; other corn in proportion; *potatoes* 10s.; *meadowing* 4s. to 8s.; *rape* 12s. to 14s.; *ſheep* (for wool) 3d. per head, including lambs; *lambs* 6d. a piece; *oxiers*, for twenty-five acres in Fiddown, five guineas, the only inſtance of their being tithed; the tithe now is valued higher. Tithe is ſometimes demanded by proctors for *orchards*, *bees*, *turnips*, but not paid.

'The demands for tithes vary at the will of the proctor or incumbent: in the pariſh of Callan, 8s. is paid for wheat; in Dungarvan, 15s. or three crowns, was demanded in 1801; wheat and potatoes have in general riſen ſince 1797, in the barony of Gowran, from 8s. to 10s.; barley from 6s. to 8s.; meadow from 5s. to 6s.; the pooreſt oats in Idaugh were charged 3s. Potatoes are ſometimes not charged to rich farmers in Gowran, who have much corn; but the tithe of potatoes falls chiefly on the poor cottiers, who pay by the perch, ſometimes the full value. In the diſtrict of Freſhford, ſome cottiers ſaid they permitted their tithe to be drawn rather than pay the demand, which was above the value. Tithes are not very often taken in kind; but the proctors ſometimes delay their valuation, which obliges farmers to keep their corn on the ground to its great injury; this has been complained of, particularly in the union of Kilmacahill, where reeated notices have been given to the proctor in vain.

'Though the clergy in general are reaſonable in their demands, yet, when tithes are left to proctors, or let, or are (which is the greateſt abuſe) in lay hands, many local complaints muſt ariſe, too numerous to repeat or detail: the poor man will pay the proctor his demand, rather than be cited to the biſhop's court, or than keep his corn on the ground when the grazing of his ſtubbles are neceſſary to him: many ſuch local inſtances might be ſtated; but, being partial, are better omitted. In this county, tithes are a greater cauſe of complaint than in others, as it is almoſt the only part of Leinſter in which tithe is demanded for potatoes, which ſeems unreaſonable, as few counties have more corn. Hence tithes, whether they are a real grievance or not, have always been the pretence for diſturbance; hence the prevalence of *white boys* ſome years ago; hence the farmers ſeem to conſider themſelves ſcarce affected by any other grievance: it is the firſt object in their minds; and more ſo here than in many other places, as the inhabitants and rich farmers are almoſt all Roman Catholics, who think it hard to ſupport two eſtabliſhments, and pay for a worſhip from which they

receive

receive no benefit. When the ſubject, therefore, was agitated in parliament, this county was the firſt to petition againſt tithes in 1787.

'The tithes are uſually valued by the proctor after harveſt; ſometimes he meets the farmers at public houſes, another ſource of evil, to ſettle with them: ſometimes the incumbent agrees himſelf; the farmer then quits his work to go to him repeatedly, and, by various ſtories, tries to circumvent the clergyman, whoſe time is taken up in making bargains. The tithes are paid half-yearly, in November and May; the incumbent often takes notes, and is ſometimes not entirely paid for two years.

'All reaſonable clergymen, ſeeing theſe diſadvantages, wiſh for another mode of payment; and if the tithes were ſold, at a moderate valuation, to thoſe intereſted in them, a fund might be eſtabliſhed, not only ſufficient to pay the clergy more than their preſent incomes, but to purchaſe glebes; and ſuch a ſcheme appears no leſs eaſy than deſirable.

'Every incumbent ſhould be provided with glebe ſufficient to ſupply his houſe, and with a glebe-houſe fit for a gentleman to reſide in; then the miſerable excuſes and ſhifts made to avoid reſidence would be done away; and the paſtor would be an enſample to his flock, not only in morality, but in agriculture. In England commutations for tithe have been ſuggeſted by ſome of the heads of the church, as the Biſhop of Lincoln; the payment varying according to the price of corn.

'Some lands, anciently monaſtic, are tithe-free; ſuch are Aghnamult, Sheeſtown, Kilree, Kilfera, in all about 4000 acres, in the union of Burnchurch. Such are ſome lands in the pariſh of Graigue, and others: the value of theſe lands is high, and they are generally well improved.'

An appendix, containing ſome important papers on the ſubject of canals, &c. is ſubjoined. A very diſtinct map of the county is alſo given, which is an uſeful appendage.

On the whole, we are well pleaſed with this ſtatiſtical ſurvey. It diſplays a conſiderable degree of information on rural matters, and proves that the author has the real intereſts of his country at heart. We would, however, recommend to thoſe, who may be employed in ſimilar inquiries, to ſtudy brevity as much as poſſible; for, were all the thirty-two counties of Ireland to be deſcribed in the like copious way, an ordinary reader would hardly be able to examine them during the period in which our globe makes its annual revolution. N.

BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

THE flouriſhing ſtate of Scottiſh huſbandry having of late excited much inquiry among our ſouthern neighbours, we are induced to open the intelligence department of this volume with a retroſpective view of the cauſes which contributed to place the country under its preſent happy circumſtances. Though moſt of them are of ancient ſtanding, yet it is but of recent date that they have operated and produced beneficial effects. So true it is, that the wiſeſt law, in many reſpects, may be conſidered as a dead letter, till it is blown upon, or brought into action; then, all at once, it ſprings into life, and diſplays the wiſdom and foreſight of the ſages who enacted it.

Agriculture long remained imperfectly underſtood in North Britain; but, ſince the middle of the eighteenth century, this ſcience has rapidly advanced towards perfection. In ſeveral of the low-land diſtricts, it is now carried on in a ſtyle equal, if not ſuperior, to that of the moſt favourite Engliſh counties, and over the whole country extenſive improvements have recently been executed. In this leading article, we ſhall preſent a haſty ſketch of the ſtate of Scottiſh huſbandry during the laſt century, and point out a few of the cauſes which have contributed to place the firſt of the arts upon its preſent reſpectable footing.

The feudal ſyſtem prevailed in Scotland longer than in the ſiſter kingdom, and its effects placed the cultivators of the ſoil in the moſt abject and dependent ſtate. Men of enlarged minds, or thoſe upon whom liberal ſentiments operated, avoided a profeſſion upon which contempt and poverty were neceſſarily entailed: hence the tenantry were generally ignorant of or unacquainted with the principles of the ſcience which they followed, and of the practices not only of other nations, but even of the conterminous diſtricts. Indolence likewiſe prevailed in a remarkable degree, and of courſe every branch of rural labour was executed in the moſt ſlovenly manner. So late as the beginning of the eighteenth century, ſummer fallow was unknown, at leaſt it was unpractiſed in Scotland, though this radical improvement has been prevalent among our ſouthern neighbours ſince the period of the Roman invaſion.

Fortunately for Scotland, a few men of ſuperior abilities contemplated

temp'ated with concern the deplorable ſtate of huſbandry, and exerted their endeavours to remove the obſtacles which ſtood in the way of an improved practice. *Fletcher of Salton* paved the way; *Cockburn of Ormiſton*, and *Hope of Rankeillor*, immediately followed; and *Lord Findlater* and *Lord Kaimes*, with the true ſpirit of patriots, finiſhed the edifice which theſe worthies had ſo nobly founded. At the beginning of the century, ſhort leaſes were granted, rent was generally paid in kind, which is always a ſure proof that the tenantry are oppreſſed; improvements were hardly known. The ſyſtem of infield and outfield prevailed in its full extent. Sown graſſes were not uſed. In a word, the proprietors received little rent; the tenantry were poor and miſerable; the country, except in a few inſtances, was little better than a barren waſte; and bankruptcies among rural practitioners were then as frequent as is now to be found among the trading and manufacturing intereſts.

To improve the country under theſe circumſtances muſt, it is obvious, have been an arduous taſk; but the means deviſed, though ſlow in accompliſhing the wiſhed-for effect, yet, being founded in wiſdom, have now fully produced the expected benefits. Long leaſes were offered to ſuch as would accept them, (for, ſtrange to tell! ſo ignorant were the tenantry, that they even queſtioned the advantage of ſuch tenures), moderate rents were demanded, and every kind of haraſſing reſtriction was given up. Under this liberal ſyſtem, the face of the country gradually changed for the better. Improvements of every kind, now when ſecurity was granted for reaping the fruits, were cheerfully undertaken by the tenantry. This threw capital into their hands, and ſtimulated additional exertions. Others gradually adopted a ſimilar ſyſtem; and, before the end of the century, almoſt the whole of the lowlands of Scotland might be conſidered as more highly cultivated than any other country with which we are acquainted.

It muſt be remarked, that the legal polity of Scotland is highly favourable to the cultivators of the ſoil. By a regulation made in 1629, tithes were in fact annihilated, at leaſt ſo far as concerns the tenantry, while the burden of ſupporting the poor is ſcarcely felt, not amounting to a halfpenny in the pound of real rent. A judicious law, reſpecting the diviſion of waſte and common land, was alſo enacted in 1695; and other laws had been previouſly paſſed by the Legiſlature for ſtraighting marches, and aſcertaining the mode of encloſing betwixt conterminous proprietors. If a ſingle cauſe of complaint remains, it is occaſioned by the reſtriction ſtill enforced againſt ſubſetting land. It is evident that the retention of this feudal remnant does not promote the intereſt of proprietors in the moſt diſtant degree, while it operates, in many

caſes, againſt improvements. The old feudal rule, that a vaſſal could not be received on an eſtate without the conſent of the ſuperior, is now happily aboliſhed; and it ſeems ſtrange that the power exerciſed by proprietors, of preventing any perſon from poſſeſſing land without their conſent, ſhould ſtill be retained. The caſes are exactly the ſame in principle, and the welfare of the country is more concerned in the abrogation of the rule as applying to tenants than vaſſals.

Having given this haſty ſketch of Scottiſh huſbandry in the preceding century, we ſhall detail, as conciſely as poſſible, the ſtate of huſbandry during the year 1802, and more particularly at the preſent time.

The year 1802 was, in ſeveral reſpects, uncommonly favourable for executing rural labour, and perhaps the country has ſeldom experienced better ſpring and autumn quarters than in this year. Clay ſoils wrought in a ſuperior way, at ſeed-time, to what commonly happens; and the wheats, from being well rooted, received little damage from the cold winds of April and May. The ſummer quarter was, however, unpropitious to the growth of corn and graſs, and ſerious apprehenſions were at one time entertertained, that the grain crops would prove defective. Theſe apprehenſions proved, in a great meaſure, unfounded, for the warm weather in Auguſt and September ripened the grain of the ſouthern diſtricts in the completeſt manner. Except a partial loſs from ſhaking winds and ſevere froſts, in September and October, the crop was ſafely harveſted, and brought into the yard in excellent condition.

Whether the laſt crop, taking it upon the great ſcale, equals an average one, is a problematical circumſtance. In a few diſtricts, ſituated on the eaſtern coaſt, the crop is unqueſtionably good; but, in the weſtern and northern parts of the country, owing to the coldneſs of the weather in the ſummer months, it is conſidered to deſerve a different character. The rate of markets, and the great importation of foreign grain, ſupport the idea that the crop is below the conſumption; but the corn-trade, for ſome time paſt, has been carried on upon ſuch diſcordant principles, that it is ſcarce practicable to draw juſt inferences from the extent of imports and exports. The country muſt be fully ſtocked, before old principles can be acted upon; and that a full ſtock in hand is not yet gained, muſt be obvious to the moſt ſuperficial inquirer.

The prices of grain through the year have been fully as high in the ſeveral Scottiſh markets, as in Mark-lane, and ſtill keep in uniſon with thoſe of the metropolis. Good wheat, weighing from 63 to 64 lb. *per* Linlithgow firlot, (about 3 *per cent.* larger than the Winchester buſhel), ſold lately as high as 32s. a 33s.

but is now down to 28s. *per* boll of four firlots. Inferior ſorts, from 22s. to 26s. It deſerves attention, that the thick-chaffed wheats are generally very defective in quality, and that the principal ſamples are all of the thin-chaffed varieties. This has occaſioned the ſowing of the former ſorts to be almoſt diſuſed this ſeaſon, though, till lately, they were held in the greateſt eſtimation.

Markets for fat and lean ſtock have experienced no reduction, and it is ſuppoſed that the quantity of ſheep and cattle, in North Britain, is much leſſened within theſe few years. Be this as it may, the demand is equal to the number preſented, which neceſſarily occaſions the late high prices to be fully maintained. The taſte of the public, in favour of butcher-meat, ſeems daily to increaſe; and it is with pleaſure we remark, that a very general attention is now paid to the improvement of ſtock in every quarter of the country. The increaſed value of the article has occaſioned this ſuperior attention; and it is to be hoped, that improvements in this line will ſoon be placed upon a footing that will enable the breeders to keep their ground, in the event of a declenſion of markets. Fat cattle and ſheep at preſent are worth 10s. 6d. per ſtone, of 16 lb. Amſterdam, or 17½ avoirdupois.

The turnip crop has in general ſucceeded this ſeaſon, and yields richer and more nutritive food than thoſe of the three preceding years. This valuable root is now extenſively cultivated in every quarter, and is eminently uſeful upon moſt of ſoils. Perhaps a ſenſe of its value has lately cauſed a more general culture than conſiſtent with the real welfare of agriculture. Upon all ſandy and dry ſoils the turnip huſbandry is truly beneficial; but where the ground is inclined to clay, or incumbent upon a cloſe bottom, it does not require argument to prove that the cultivation of this root is accompanied with a certain loſs to the owner. A clean ſummer fallow is the only mode that ought to be practiſed under theſe circumſtances; and it is now aſcertained, beyond diſpute, that the firſt crop, after this fallow, is of greater value than both the crop of turnips, and the ſucceeding crop of grain, even when every branch of management is, in other reſpects, conducted in the moſt huſbandman-like manner.

Since harveſt was finiſhed, the weather has proved unfavourable to the ſowing of wheat, and to the ploughing of the ground for the next crop. The rains have, however, been partial, and rather of that extent as to render the ſurface wet, than to fill the bowels of the earth with water. The fallow wheats were in general ſown during the months of September and October, and lately preſented a promiſing ſhow, though now checked by the recent froſts; but the bean ſtubbles, being late of clearing, were not ſown under favourable auſpices. Many of them are yet unſown, and ſe-

veral fields were only ſown about the end of laſt month. Spring wheat is now very common in the early diſtricts, and, in dry warm ſeaſons, has often been cultivated with advantage. Where the turnip-huſbandry is general, this mode muſt neceſſarily be followed, or the alternative adopted of ſowing upon clover-ſtubbles. Repeated trials have, however, aſcertained, that the culture of oats, after the clovers, is more beneficial than that of wheat. Acting upon this principle, ſpring wheat is uſually ſown after turnips in many counties, and the grain ſo produced is often found ſuperior to what is ſown in the autumnal and winter months.

We obſerve that meetings of the landed intereſt have been held in ſeveral counties, to take under conſideration the additional duty impoſed laſt year upon malt. In all former bills, a leſſer duty was impoſed upon barley and bear, manufactured into malt in Scotland, than in England; and it was ſuppoſed that this diſtinction was founded upon juſtice and expedience. That ſome diſtricts in Scotland raiſe barley, equal to what is uſually produced in England, we are diſpoſed to admit; but in the northern, and particularly in the weſtern diſtricts, where the climate is late, and *big* or *bear* generally taken inſtead of barley, an equal tax is undoubtedly a grievous oppreſſion. Notwithſtanding of the numerous and beneficial improvements which have taken place in theſe quarters, yet none of them can poſſibly meliorate the climate, which remains cold and wet, backward to vegetation, and unfriendly to the harveſting the article upon which the duty is to be levied. A departure from the ſyſtem of taxation, maintained ſince the union, forms the cauſe of complaint made by the different counties; and, in our humble opinion, it deſerves ſerious attention. We are glad to ſee landed proprietors take up ſuch matters, for they lie particularly within their province; and, through their endeavours, the wiſhed-for redreſs can only be obtained. We ſuggeſt the propriety of permitting Engliſh barley imported into Scotland, and manufactured there, to be taxed in the ſame ratio, as if it had been malted in England; and to this meaſure no well-founded objections can be urged. Indeed an equal malt-duty, in this caſe, would prove highly beneficial to Scottiſh huſbandry; the ſuperior quality of Engliſh grain, eſpecially in ſeaſons like the laſt, gives it a decided preference in all the northern counties, and makes home raiſed-grain meet a market under a poſitive diſadvantage. This ſubject is well elucidated in the Fife and Moray reports, and in the Glaſgow letter, of intelligence preſented in pages 120, 121, and 122, of this number.

We ſtate with pleaſure the continued and increaſing endeavours of the FARMING SOCIETY OF IRELAND, to benefit the huſbandry of that country; and, in the inſtance we are now to mention, the good

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of their inquiries muſt be univerſally felt. This veteran ſociety, in order that the moſt valuable breeds of cattle and ſheep may be accurately aſcertained, have lately offered two premiums of *one hundred guineas each*, and two of *fifty guineas each*, for the two beſt and ſecond beſt eſſays on the reſpective properties of theſe animals, which contribute moſt to their utility. By ſuch liberal offers, it may be expected that every ſpark of knowledge, in the country, of theſe matters will be brought to light; at leaſt a conſiderable body of information muſt be collected. The trifling premiums of five and ten guineas, held out by ſome other ſocieties, cannot form an object to men of ſcience and character. In fact, even when gained, they can hardly be reckoned a remuneration of the trouble and expence actually incurred in making the neceſſary inquiries, and arranging the reſults in a ſyſtematic ſhape.

We ſhall conclude this article, by remarking, that, upon the whole, the ſtate of huſbandry, at the end of the year 1802, muſt be viewed as beneficial to the country, advantageous to proprietors of land, and honourable to the occupiers. The produce of the country is undoubtedly augmented in a conſiderable degree; rents paid to proprietors are amazingly increaſed, while the ſituation of cultivators is flouriſhing and proſperous. It is to be hoped that the like favourable circumſtances, as have occaſioned ſuch important advantages to all concerned, will not in future ceaſe to operate; and that, under the influence of a juſt ſyſtem, and the ſecurity of equal laws, thoſe parts of the kingdom which remain unimproved will ſoon be brought into the ſame profitable ſtate as thoſe more early cultivated *.

January 23. N.

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* A conſiderable part of this article is taken from an agricultural report drawn up by the conductor of the magazine for a London monthly publication: but as that work would reach few of our readers, we judge there can be no impropriety in preſenting the ſubſtance of it here.

EXTRACTS

Extracts from Private Correspondence.

SCOTLAND.

Inverneſsſhire Quarterly Report.

Our crop was, on the whole, better ſecured than could have been expected, from the extreme wetneſs of the latter part of the autumnal ſeaſon; but it was Martinmas before the whole was got into the ſtack-yard. The produce, as to quantity, I believe, will equal that of an average crop; but the quality is very inferior, owing to the great want of ſunſhine during the Summer months. Except for barley, there is no demand at preſent for any ſort of grain; and the large importations of that article from England, and various parts of Scotland, have, within theſe few days, glutted our market completely. Beſt Norfolk barley has been offered ſo low as 27s. 6d. per boll in quantities; but, for ſmall parcels, 30s. may ſtill be brought; inferior qualities, as low as 24s. As for wheat and oats, I have not yet heard of any of theſe grains being ſold at fixed prices; but oat-meal in retail, brings 1s. 4d. and 1s. 5d. per peck of nine pounds, and barley-meal 1s. 3d. per peck of ten pounds. The weather has been uncommonly mild of late. Until this day, our ploughs can hardly be ſaid to have been ſtopped by froſt. The demand for cattle of all deſcriptions, was very great at the latter end of the ſeaſon; and ſo few are left in the country, that prices are likely to go very high in Spring-time. Winter fodder is very plentiful, and no demand prevails for hay.——*Jan.* 12.

Letter from David Sheriff Eſq. dated Kinmylees, near Inverneſs, January 12. 1803.

'As I conceive it to be very proper, that any thing relative to rural affairs, out of the common train of occurrences, ſhould be circumſtantiated as to place, date and perſon, I therefore give you authority to inſert, in your next Number, the following account of a ewe, which is preſently in my poſſeſſion.

'In the month of March 1801, I bought 225 ewes of the ſmall country breed, ſuch as may be fed to 8 lb. per quarter, which I grazed upon the outfield paſture, and among the woods belonging to my farm. I ſold the lambs produced by theſe ewes, in the month of June following, at 8s. per head; and the ewes, on the 1ſt January 1802, after getting a very few turnip, at 15s. One of theſe ewes, an extreme old one, without a tooth, had a lamb taken off about the 1ſt June 1801, and on the 5th of November following ſhe had a ſecond, which I killed on the 29th December, having refuſed 30s. for it. On the 20th April laſt, ſhe had a third lamb, which I ſold at 12s. along with nineſcore more: and this day, *the 12th January* 1803, the ſame old ewe has dropped a fourth lamb, apparently of a healthy and ſtrong conſtitution; and I have little doubt but I ſhall get 25s. or 30s. for it next month. I have juſt now put the ewe into a houſe to feed with turnip tops and kail, the only food ſhe can now eat, from her total want of teeth.'

Letter

Letter from a Farmer in Roxburghſhire, Jan. 8.

'SINCE the concluſion of harveſt, we have enjoyed fine open weather till lately, and have been able to get field labour in a very forward ſtate. The graſs lands continued to vegetate with vigour; and I hardly remember of having ſeen the turnips ſo much ſhot, or run, as in this ſeaſon. This, however, is now effectually ſtopped by the froſt, and unleſs this valuable root is injured by a continuance of the preſent weather, we have a proſpect of enjoying a full ſupply of cattle and ſheep meat for a conſiderable length of time.

'I don't think that there is any thing like the uſual extent of ſtock in the hands of the breeders or feeders of this county. Thoſe who had to purchaſe in autumn, were apprehenſive of riſking too much; while thoſe who had ſtock in hand, eagerly diſpoſed of greater numbers than cuſtomary, the prices being ſo extravagantly high. If a good ſupply is not procured, in the Spring, from the Northern diſtricts, it is probable that ſtock will continue to be very ſcarce.

'The great bulk of laſt crop is putting little money into the farmer's pocket; and the grain is ſo inferior in quality, that it cannot be preſented at the London market, oats excepted. It is difficult to quote prices, for we are willing to give it to the corn factor upon his own terms. The perſevering advocates for breaking up graſs land, have ſucceeded ſo far, as to render corn ſcarcely worth the growing, which may prove a fatal circumſtance to the country in after years.'

Aberdeenſhire Quarterly Report.

FROM the 14th October (the date of laſt Report) the weather remained very fine for about ten days; ſo that, in the early diſtrict of the county, the different crops were harveſted in a very perfect ſtate. Before the end of the month, the weather broke, and continued ſo long bad, with torrents of rain, as occaſioned the crops which remained in the fields to be almoſt totally ruined. The loſs in many places was very conſiderable; and where there were no thraſhing machines to take out the grain in its wet ſtate, it could not be ſaved by the moſt active efforts.

Barley turned out ſufficiently productive, and fit for malting. It is, however, upon the whole, rather defective in weight. Oats are leſs defective than were expected, though they do not yield ſo freely from the ſtack as we could wiſh. Neither the one grain nor the other is, however, in great demand: the temper of the market does not induce merchants to be hearty in purchaſing, nor the ſcale of prices tempt farmers to be anxious about ſelling.

Cattle and ſheep maintain very high prices. The ſtock of either, on hand, is by no means great; though provender, both of ſtraw and turnips, is very plentiful. In dry ſituations, field work is ſufficiently forward, as there has been little interruption from froſt or ſnow; but, in low lying, or wet ſituations, little labour could be accompliſhed, owing to the humidity of the weather.

Peat

Peat moſs has been ſtrenuouſly recommended as an excellent ingredient in compoſts. In many parts of this county, where moſs is plentifully got, it is found to be conſiderably impregnated with iron ore; in ſome inſtances, to ſuch a degree, as to render it hurtful, nay, even deſtructive to vegetation. *Query.*—How are the qualities of moſs diſtinguiſhable? When mixed with mineral acid, is there any way of purging it of this noxious quality? or, if it cannot be deprived of it altogether, with what proportion may it be uſed advantageouſly? and how is that proportion to be aſcertained?——*Jan.* 13.

Roſsſhire Quarterly Report.

The Winter has continued open, and, in general, the weather has been milder than we have had for ſeveral years paſt at this ſeaſon. Ploughing is well advanced. The ſheep and out-wintering cattle have loſt nothing of their fleſh, and, it is hoped, will reach the graſs time in better condition than uſual. As the ſtraw is not much wanted for cattle, little of the crop has yet been thraſhed. Oats meal poorly; and our diſtillers complain of the barley not giving the uſual quantity of ſpirit. Our corn markets are very dull. Oat-meal from 20s. to 24s. per boll of nine ſtones; but our prices are little better than nominal, a ſmall part of this crop being diſpoſed of. Old Barley, if fine, ſells at 30s. per boll.

There is a ſpirit of improvement gaining ground among the proprietors of this county. Captain Munro of Teaninich, and Captain Mac-Kenzie of Kincraig, have of late marled ground to a conſiderable extent, which promiſes to pay well; and many others are ſpeaking of following their example. Your correſpondent, the Northern Touriſt, will be pleaſed to hear, that the much neglected, and fine improveable property of Fowlis, is now advertiſed to be let on improving leaſes. There are many other tracts of valuable land in the county, alſo propoſed to be let in farms worthy of attention. The rage for ſheep-farming ſtill continues. Hill farms, when let of ſufficient extent for a ſheep-walk, bring three, four, or five times more rent than formerly. Some are of opinion, that this will operate againſt the intereſt of the country, many of the aborigines of the ſoil being thus forced to emigrate; while others argue, and with greater juſtice, that whatever ſyſtem brings the higheſt rent, muſt eventually promote the real good of the community. ——*Jan.* 12.

Wigtonſhire Quarterly Report.

The writer of this Report having lately made a tour through the greateſt part of the county, with much ſatisfaction obſerved the progreſſive improvement of its agriculture, particularly the increaſed quantity of wheat and turnips of late years; the turnip crop being *now* underſtood, not only of itſelf valuable, but an excellent preparative for the ſowing down of the land to graſs: and where the turnip huſbandry prevailed moſt, we invariably found the richeſt paſture. Near to the ſouthern point of this diſtrict, we viewed pretty large fields manured

nured with ſea-weed, whoſe turnips in general meaſured twelve inches diameter.

From the end of November till the beginning of this month, the weather has been rainy: now the froſt has ſet in pretty ſevere, which has not only kept back the ſowing of ſome part of our wheat, but retarded our ploughing very much; on light ſoil, we often find wheat anſwer as well in the end of February as in October.

Our crops, in general, are turning out rather better than we expected in quality, potato oats weighing from 38 to 40 lib.; common Galloway do. from 34 to 37 lib.; beer from 44 to 48 lib.; and wheat from 54 to 59 lib.; all per Wincheſter buſhel. Our market is however both dull and low in price, viewed comparatively with the extraordinary advance, of late years, on land-rent, price of labour, &c. &c.

The price of butcher meat has continued pretty uniform. Lean ſtock, and young cattle and horſes, during this quarter, have continued much higher in price than at any period during the late war.

One great cauſe of the price of grain keeping low is, the vaſt Iriſh importation into Clyde, and weſt of England; but which, being now rather falling back, it is thought, by ſome people, the market will ſoon become better.——*January 17th.*

Dumfrieſſhire Quarterly Report.

The ſeaſon, ſince laſt Report, has been as favourable as could be wiſhed for carrying on farm labour, and preparing for the enſuing crop. The lands intended for green crops have got a furrow, and many farmers are well forward in ploughing their lea lands. None are behind but ſome few old-faſhioned people, who were bred, and remain in the idea, that all land is injured by being ploughed before Candlemas. Theſe, however, it is hoped, will ſoon be ſtill fewer in number than they are. Such of the ſmall fields of wheat ſown in this county, as were got early in, are promiſing. Thoſe ſown ſo late as November were long in coming up, and appear very feeble. The quantity ſown ſeems rather more than uſual.

The crop of laſt ſeaſon is turning out, as was expected, rather below an average. Wheat is generally unſound; whether blighted in the flower, or by the froſt in the beginning of September, is not certain; likely both. Barley is firm, but light, weighs from 48 to 50 lib. the buſhel. Oats, common kind, 36 to 37 lib. Early oats rather better. Potato oats 42 lib.

The after growth in the Autumn, and the open moderate Winter months, have improved ſtock of all kinds. Many young ſheep, indeed, have died of the diſeaſe called *the ſickneſs*; but that is a mark of the ſtrength of the ſtock, generally being occaſioned by an over fulneſs or richneſs of the blood. Prices, ſo long as there were markets, increaſed to the laſt, particularly for cattle. How they will open in the Spring, is a matter of doubt; though, by all accounts, cattle are yet in numbers unequal to the demand, particularly aged cattle. Pork in carcaſe, for drying, was, in November and December, from 7*s.* 6*d.* to 7*s.* the ſtone

of 14 lib.; but is now from 5s. 6d. to 6s. 6d. The cauſe of the fall of this valuable article is not yet underſtood. The buyers of laſt year, at prices from 8s. to 10s. the ſtone in carcaſe, were thought, in the end, to have done very well.——*Jan.* 17.

Letter from a Gentleman near Perth, January 18.

'In this part of the country, the ſtate of the weather, from the cloſe of Harveſt till within theſe ten days, has, on the whole, been favourable to rural labour. The uſual autumnal ploughings were given, and even ſome people ploughed light lands for oats; a practice which ſuits ſuch ſoils well, by allowing the ground to be conſolidated before ſeed time, conſequently reſiſting the Summer drought with greater vigour. The open weather has permitted every advantage to be got from the paſtures and clover ſtubbles, and benefited the growers of turnips. Stock of all kinds is ſtill high, and I preſume will continue ſo during the enſuing Spring.

'The young wheats look well in general. In this neighbourhood, we ſow rather early than otherwiſe; ſeldom or never truſting to a late or ſpring ſowing, as is done in the ſouthern counties. I am convinced our practice, in this reſpect, is conſiſtent with our intereſt; for, from local circumſtances, we ſeldom experience the comfort of genial Spring weather. While on this article, I may mention a ſmall occurrence which happened on my farm at laſt wheat-ſeed time, ſeeing it may caution others from falling into the like error.

'My fallow being in forwardneſs for receiving the ſeed, I was led to buy ſome Engliſh wheat of crop 1801, which, to appearance, looked to be very ſuperior grain; but, from the effects of the urine and hot lime uſed in the pickling proceſs, the braird made was a very imperfect one, ſcarcely one half ſo thick as I had reaſon to expect; and, what was more ſurpriſing, the plants were gradually thinner, according to the progreſs made in ſowing; what was ſown firſt, being thicker conſiderably than what was ſown at the concluſion of the work. From what is ſtated, I preſume to ſuggeſt to all concerned, the propriety of pickling a ſmall quantity at a time; and it becomes a queſtion with me, whether old wheat needs pickling at all. It is probable, ſome of your friends may have ſuch experience on the ſubject, as to ſay whether old wheat does, or does not require pickling; and would any of them communicate their opinion, I, for one, would thank them moſt ſincerely. *

'The

* The Conductor begs leave to aſſure his worthy correſpondent, that wheat of all ages requires to be pickled, in order to preſerve it from ſmut; though there are numerous inſtances of the diſeaſe being avoided, even when the proceſs of pickling had been neglected; but no prudent man will run ſuch a riſk, the loſs ſuſtained in one fatal year, being often greater than the expence of pickling during a whole leaſe. Our correſpondent had allowed his wheat to remain too long among the urine, which is always attended with fatal conſequences.

'The grain crop of laſt ſeaſon turns out, for the moſt part, of very inferior quality, and the demand for it is unuſually ſlack. The ſcale of prices is not at all agreeable to the grower, nor conſiſtent with the rate of rents, and the expence of labour; but, ſtill, the greateſt evil is the want of demand.'

Tweeddale Quarterly Report.

THOUGH the weather took an unfavourable turn in October, yet ſufficient intervals were found to finiſh the harveſt in a ſatisfactory manner. Other circumſtances, however, contributed to place the rural matters of this diſtrict in a more unfavourable ſituation than could be wiſhed. The potatoes, and all the crops in low grounds, were much injured by the early froſts of September; and when it is added, that a ſevere ſhake took place on the higher lands in the beginning of October, it may ſafely be reckoned, that our crops are remarkably unproductive. It is difficult to calculate the general produce, as, in all high climates, there is a greater irregularity in backward ſeaſons, than where the ſoil and climate is more uniform. Many of the oats do not yield more than eleven pecks of meal per boll. Beer is far from its uſual quality; and peas are ſcarcely worth the expence of thraſhing.

As the weather continued freſh and mild after harveſt, conſiderable progreſs was made in executing field labour; and, from the ſame cauſes, the fog and turnip feeding have turned out to good account. Moſt of the turnips were ate with ſheep; as cattle, for the purpoſe, could not be got, but on the moſt extravagant terms.

For ten days paſt, a ſevere froſt has prevailed, which will no doubt hurt the turnips that remain unconſumed. Grain, meal, and butcher-meat are at much the ſame prices here as in the Edinburgh markets.

18*th January.*

Letter from a Gentleman in Aberdeenſhire—January 19.

'Our harveſt was, in many places, concluded moſt unfavourably. Near Ellon, a great quantity of oats were expoſed to the rains of the latter end of October, and the ſubſequent month, and were not got ſecured till the end of December. In the diſtrict of Alford, a gentleman had a great part of his crop, on a large farm, almoſt deſtroyed; and, at the head of the county, betwixt Huntly and Keith, many fields were uncut, or ſtanding out, when December arrived.

'The turnip crop ſtands the Winter, as yet, very well, not having experienced much froſt. We had a little ſnow ſome weeks ago. A regular ſtorm ſeems now to have ſet in; but the ploughing of wet ſoils was completely ſtopped long before it commenced.

'Too much pains cannot be uſed in cautioning farmers againſt the uſe of froſted ſeed. The froſt of 13th September, hurt only the low country crops; but later froſts injured thoſe of the higher diſtricts more ſeverely.'

Berwickſhire Quarterly Report.

THOUGH the rainy weather, in the beginning of this quarter, was much againſt the ingathering of that part of the bean crop which remained in the field, yet, where proper precautions had been taken, the grain does not appear materially damaged. Fallow wheats made a promiſing braird; but the bean lands were too late in clearing, and too wet to admit of being ſown with wheat before Winter ſet in. The long continued rains were particularly unfavourable to ſheep in ſituations any way liable to the rot; and that diſeaſe, known in this county by the name of the *black ſpauld*, (from its terminating in a mortification of the hind quarters), has, in ſome ſituations, been very fatal amongſt the calves of laſt year: thoſe calves that are higheſt in condition ſeem moſt ſubject to this diſorder, which (like the rot in ſheep) appears to be in ſome meaſure local, and always moſt prevalent in a mild wet ſeaſon. If any of your readers have diſcovered a cure for this diſeaſe, or the means of preventing it, they would confer a benefit on ſociety, by making it known through the channel of your Magazine.

The markets for lean cattle at Martinmas were higher than ever remembered, being conſiderably above the prices of laſt year. Late turnips have ſenſibly improved ſince the commencement of this quarter, while the early fields have univerſally ſhot up into the ſeed ſtalk; the letting price for thoſe of the beſt quality has been from 3l. 10s. to 4l. per Engliſh acre. Ploughing is in a very forward ſtate, having met with little interruption from froſt till within theſe eight days.

Wheat turns out greatly below an average crop, and the general quality is ſo indifferent, that few fine ſamples are to be met with. Oats, though they meal tolerably well, make but a very middling return per acre. Barley is ſmall in the grain, and will hardly yield an average return. Beans, except where they have been thraſhed for the purpoſe of being kiln-dried to make them keep, have ſcarcely yet been ſeen at market; but from theſe trials the crop does not promiſe to turn out productive. Peas are hardly worth eſtimating. Our corn markets have been gradually declining ſince November. The preſent prices are: Beſt wheat, 37s. 6d.; ditto barley, 16s.; ditto oats, 14s.; potato oats, 16s. per boll of ſix Wincheſter buſhels. Hay is ſelling from 6d. to 8d. per ſtone of 22½ lib. Engliſh; and potatoes in wholeſale, deliverable at Berwick, at 14s. and 15s. per boll of 40 Engliſh ſtone. Butcher markets have remained pretty ſteady; good beef being 8d., and mutton 7½d per lib. of 17½ ounces. The ſnow which fell on Sunday the 9th, ſtill continues to cover the hills; and though not deep, yet, from its being frozen on the top, the flocks in that diſtrict have required a foddering of hay for theſe ſome days paſt.—*Jan.* 19.

Eaſt Lothian Quarterly Report.

THE weather broke in October, before the whole of the crop was carried; but the loſs thereby ſuſtained was not of much conſequence. In the important buſineſs of ſowing the wheat lands, an obſtruction of greater magnitude was generally felt, and various fields remain unſown, which

which originally were intended for wheat. Such fallows as were feeded in September, maintained a flouriſhing appearance when the froſts commenced; and as they were well rooted at that period, little danger is apprehended from the temporary ceſſation of their growth.

The grain markets preſerved a ſteady aſpect till the beginning of this month; but, of late, ſales have been made at prices conſiderably reduced. When it is conſidered that nearly one half of the produce of this county muſt be ſent out of it either in a raw or manufactured ſtate, and that the ports of the conterminous counties were filled with grain imported from England and foreign countries, the declenſion will not excite ſurpriſe. The fact is, prices at Haddington were longer of being depreciated than in other quarters; which is a ſure proof that the quality of the grain, there preſented, is of the firſt ſort. If Scotland had depended ſolely on its own produce this year, a real ſcarcity muſt inevitably have been experienced. The importation of Iriſh oats and American wheat into the weſtern ports, and grain of all kinds from England, and wheat from foreign countries, into the ports on the eaſt coaſt, have, however, prevented an evil which could not otherwiſe have been avoided.

Little alteration has taken place in the butcher markets of late, nor is any expected for ſome time to come. The demand and ſupply has hitherto been tolerably well proportioned, and probably will remain ſo till the concluſion of the feeding ſeaſon. Stock upon turnips have thriven well; and from ſales made, it appears that the feeders will get through, notwithſtanding that purchaſes were made at enormous rates. The month of April is, however, the trying time for the feeders, as the markets are ſeldom glutted earlier.

Ploughing, in general, is not very forward, but equally ſo as laſt year. Upon the wet and heavy lands much time was loſt from the October and November rains; the lateneſs of the harveſt, and the time ſpent in ſecuring the crop, alſo contributed to throw field labour behind. The reduction of prices has not ſerved to check an increaſe of rents; but this may be reckoned a pretty good ſign of the increaſing proſperity of the country.——*Jan.* 21.

Mid-Lothian Quarterly Report.

The mildneſs of the two laſt months has been favourable to the growth of the young wheats, which, before the commencement of the preſent froſt, had a promiſing appearance. The ſame cauſe has permitted ploughing to be, in general, well advanced; a circumſtance of great importance before the commencement of ſevere weather.

The laſt year's crops have turned out, upon trial, nearly as was expected at the time of writing laſt report. The markets are fully ſupplied, and ſales dull; but barley is quite unmarketable almoſt at any price. This is generally attributed to the high additional duty lately impoſed upon malt, which is the ſame, whether barley be good or bad, of Engliſh or Scotiſh growth.

The brewer and diſtiller find it their intereſt to purchaſe nothing but the very beſt grain; and they very readily rather give from 22s. to 24s.

for

for Engliſh barley, than give 16s. for Scots barley: and, it ſeems, this great diſparity in price does not ariſe ſo much from a correſpondent difference in weight, as from the former giving more ale or ſpirits than the latter.

Ought not all thoſe, in every county of Scotland, who are intereſted in the growth of barley, to apply to Parliament for a modification of the malt-duty, as has been the caſe during the laſt century? for it is quite as reaſonable that an act ſhould be paſſed, ordaining all grain of the ſame ſpecies to be ſold at the ſame price, however different in quality, as that equal duties ſhould be impoſed affecting barley of very unequal qualities.

Fat cattle continue to maintain good prices; they give from 10s. to 11s. per ſtone Dutch, ſinking the offal; and, by retail, beef ſells at from 6d. to 8d. per lib.; Mutton, nearly the ſame. Current prices for both, 7d. per lib.

Oats from 10s. to 16s. per Linlithgow boll.
Beans and peas from 13s. to 16s. 6d.
Wheat from 22s. to 27s. Sales dull.
Hay from 7d. to 8d. per Tron ſtone.

Herrings have almoſt deſerted the Frith of Forth this ſeaſon; but cod has been found in conſiderable abundance as far up as Alloa; and many Engliſh veſſels are employed catching them alive for the London market, which is a new thing ſo far up the river.

January 25.

ENGLAND.

An intereſting communication was received from the gentleman who favoured us with the particulars of the Duke of Bedford's huſbandry; but too late for our laſt Number. Though rather now out of date, we have made a few extracts from it, and truſt they will prove acceptable to our readers.

Letter from a Scotch Farmer, on a Tour through England, dated Cardiff, Wales, Oct. 21. 1802.

"I left London on the 21ſt Auguſt, on a viſit to our good friend in Wales, and had tolerable opportunities of examining the huſbandry of the country, betwixt the metropolis and that diſtrict. During the firſt two ſtages, the different corn crops appeared very good; ſome of the wheat was carried, the beans nearly ripe, and the meadow-hay above half cut. From Marlborough to Deviſes, neither wheat nor barley was ripe; and many fields of turnips were not thinned or ſet out. Near Bath, paſture and hay fields are very numerous, little land being under corn crops; and the ſame obſervation may be applied to the country around Briſtol. Both theſe cities appear to have felt the effects of the late war, more ſeverely than other places; for hundreds of fine new-built houſes remain unfiniſhed in both of them; ſome of them apparently

parently in a very tottering ſtate. Between Briſtol and the new paſſage over the Severn, I croſſed a common of fine land, carrying a green paſture, and totally free of ant hills, which cover all the common and waſte land in the South of England. From the new paſſage to Newport and Cardiff, the face of the country is much the ſame as on the Glouceſter ſide of the river, riſing into gentle little hills, which are enclоſed and cultivated to the tops. Harveſt was then only beginning, and none was carried. A great many fields were more than fully ripe, and ſeemed to remain uncut for want of hands. Much hay was alſo ſtanding in the cock; and ſome of the ſalt marſhes below Cardiff were uncut. All the reapers in this diſtrict (Wales) are men, and their wages are two ſhillings per day, with victuals. They work two and two on a narrow ridge, cloſe at one another's heels, and lay down the corn in handfuls, which is taken up by women and boys, who bind it in ſmall ſheaves. Barley is uſually cut with the ſcythe, cocked in like manner as hay, and built in long ſtacks.

'The farmers are, at this time (October 21ſt), buſy in ſowing their wheats, which is a buſineſs that occupies a conſiderable part of their attention. On fallow ground, it is put in under furrow, on two-bout ridges; and afterwards gone over with hand-hoes, inſtead of receiving the harrow. On clover leas, they caſt up every furrow with a ſhovel, on the ſides of the narrow ridge, after harrowing; and the ploughing, though very ſhallow, is given with ſix or eight oxen. Our friend has, for ſeveral years, ploughed with two horſes; but few of the neighbours have followed his example.

'The whole country, from the paſſage to Swanſea, is incumbent on limeſtone; and there is abundance of coal in the hills. Few farmers are therefore without lime-kilns for their own uſe. Much of the article is uſed in compoſt middings, generally formed from the head lands and banks of ditches, which is applied to the fallows and clovers for wheat. Not many oats are ſown; and theſe are generally of the black variety. Only a few ſmall fields of turnips are to be ſeen, and ſome of them are not hoed. The iron-works in Monmouth and Glamorganſhires render labourers very ſcarce. The great profits made by the proprietors of theſe works during the war, has occaſioned them lately to be conſiderably extended; and, though the price is leſs, more iron is made than ever. About Morthey, 400 tons of bar-iron, of different ſizes, is manufactured per week. It is brought by the canal to Cardiff, in barges of 20 tons, drawn by one horſe.'

Letter from a Farmer in Wales, January 11th.

'We have experienced a remarkable mild Winter, which might have led us to expect a full-grown braird of wheat. But the contrary has happened; for I never ſaw the young plants look weaker in this country than in the preſent ſeaſon; and I attribute this chiefly to the ſmallneſs of the ſeed produced from laſt year's crop, occaſioned by the coldneſs of the Summer months, and the immenſe bulk of ſtraw; circumſtances that render grain always defective. Indeed, our grain, I mean the

the wheats, is ſo light, that when we ſell it by weight (a cuſtom our millers are fond of), we may be ſaid to be great loſers; for it takes an extra quantity to make up the aſcertained weight of a buſhel, though no doubt this mode muſt be conſidered as a better criterion for determining the comparative value of grain, than what is furniſhed by a meaſure of capacity.

'Three months ago, there was a proſpect of cattle markets taking a retrograde courſe; but, at our late fairs, ſmall oxen, ſteers, and young heifers, ſold much higher than at any former time. Store ſheep and pigs alſo hold a great price; but old oxen are not ſo much in demand. The great ſtore of hay and ſtraw in hand, gives us an unuſual quantity of Winter food, eſpecially as few people are provided with their wonted extent of ſtock.

'Labourers wages continue to riſe. During the war, men were begging for employment; but now, when peace is returned, which of courſe might be expected to have increaſed their number, hands cannot be got. Cardiff Heath is now improving with great ſpirit under the patronage of the Marquis of Bute, by whoſe exertions an act of Parliament was obtained for dividing and incloſing the ſame. It was ſurveyed and divided by a countryman of yours, who ſeems to have given great ſatisfaction to all parties. It was about this time twelvemonth, that they began to incloſe; and, from preſent appearances, the one half of the heath will be in corn next year. Many different means of improvement have been tried; but paring and burning ſeems to be moſt effectual; and the wheats, where that was done, look very well.'

Eſſex Quarterly Report.

A moſt remarkable dry Autumn prevented the wheats from being depoſited in the ground till a very late period; ſo that they have but juſt made their appearance, which at the preſent is rather unpromiſing, as they look but thin and weakly. Turnips turn out to be rather a better crop than was expected, and the young graſſes look not altogether unpromiſing. The produce of laſt crop turns out abundant, except beans and *peas*, which yield little more than the ſeed. Barley, and oats eſpecially, are very difficult to thraſh; being harveſted in ſo dry a ſtate, makes them adhere very cloſely to the ſtraw. The weather has been open, mild, and generally dry, till within this laſt week, ſince which time a ſevere froſt has ſet in, without any ſnow, which appears likely to continue, the thermometer varying from 20 to 24 degrees. Every one is embracing the opportunity of carting the manure and compoſt on the lands; ſo that every horſe and man is employed. We are now looking forward to the time of beans ſowing, which will commence immediately upon the departure of the froſt. The method here uſed in planting them, is by ſowing broadcaſt, and ploughing in the ſeed, or by dibbling; a practice perhaps unknown in the North. A man has an iron in each hand about three feet long, with which he makes the holes, to admit of two or three beans each, which are dropped in by children, after which it is harrowed over. They are dibbled about

nine

nine inches, and at about 4s. 6d. or 5s. an acre of expence. In the Winter ſeaſon, many farmers who have wet land employ ſome of their men in land-ditching or ſurface-draining. A new invention, or plan of performing this operation, has lately ſtarted up, by means of what is called a mole-plough, which makes an aperture in the earth about twenty inches below the ſurface, ſufficient to take the water off. Stock of all kinds is dear. Hogs are this ſeaſon chiefly fatted upon barley meal, it being the cheapeſt food, and are ſold at about 12s. 6d. a ſcore.——*January 15th.*

Lincolnſhire Quarterly Report.

THE drainage of our fens and low lands does not go forward with ſo much expedition as could be wiſhed, though every perſon is thoroughly convinced, that the plan and report thereof given in by John Rennie Eſq. is admirably calculated to anſwer the intended purpoſe in the moſt complete and effectual manner. A ſcarcity of hands, and a want of exertion in ſome individuals concerned, have retarded a work longer than expected, which eventually muſt prove vaſtly beneficial to the intereſt of this county, and the numerous individuals who have a right to the lands now under this mode of improvement.

The grain markets are dull; but thoſe for ſheep and cattle preſent every proſpect of maintaining high prices. Land rents continue upon the riſe, though ſuſpicions may be entertained that the new ſets will not ſtand the teſt of time. Some of the ground ſold by the fen commiſſioners for defraying the charge of fences and buildings, has drawn forty pounds per acre in its natural ſtate; but this perhaps is an inſtance of the whimſical diſpoſition of mankind. A great many encloſure bills are going forward here; and attendance upon meetings about ſuch buſineſs occupies a conſiderable ſhare of the time of our chief men of buſineſs——*17th January.*

Norfolk Quarterly Report.

NOTWITHSTANDING the heavy crop of corn to be carried laſt harveſt, the whole was ſecured expeditiouſly, and a reaſonable hope was afforded, that we would enjoy an early and favourable ſeaſon for wheat ſowing. On lands which had been Summer-fallowed this was the caſe; but the ſyſtem of fallowing, or, in the dialect of the country, 'giving a thorough Summer tilth for wheat,' being now univerſally exploded, (though I am firmly perſuaded it will frequently be found neceſſary to recur to the practice of the old ſchool in this particular), and ſowing upon the ſtag being very generally adopted, the long drought during harveſt, and for ſome weeks afterwards, precluded the poſſibility of breaking up for a conſiderable time the two years leas for wheat; and conſequently, this operation was obliged to be deferred, in many caſes, till the ſeaſon for ſowing was far advanced, and fears, not very unreaſonable, were entertained, that, ſhould the Winter ſet in early and ſevere, the plants might be materially injured, before they had obtained ſufficient ſtrength of root to reſiſt the attacks of hard froſt. Providence,

however, has conſiderably leſſened theſe apprehenſions, by ſending an autumnal quarter remarkably mild and open. In conſequence of which the wheats have planted full and regular, and, till the commencement of the preſent ſevere froſt, appeared vigorous and healthy: even now I ſhould hope they will not ſuſtain any very ſerious injury, except in caſes where the ſeed was ſown, ſo late, that the plant is now only juſt beginning to make an appearance.

A heavy crop of corn on the ground is almoſt conſtantly prejudicial to the young clovers; but this year furniſhes an exception to a general rule, probably becauſe no very violent rains fell to beat the corn to the ground, after it had got into the ear. The clovers have planted thick and well, and, before the froſt ſet in, appeared unuſually freſh and luxuriant. The ſame remark applies to the Winter tares: unprotected, however, by a friendly covering of ſnow, it is not improbable but in ſome (perhaps in many inſtances), and particularly where the land is not in very high condition, they may ſuffer material injury. The turnip crop, after the firſt and ſecond hoeing, was extremely promiſing; but the long drought before, during, and after harveſt, greatly injured the young plants, and it was apprehended they could not produce more than one third of an average crop: they are, however, greatly improved in the courſe of the laſt quarter, and, though the froſt has now entirely deprived them of their tops, may, I think, ſtill be deemed full half a crop. The quality is univerſally allowed to be very moderate, not ſufficiently good to fatten ſtock for market, without the aid of ſome more nutritious food; though a remark, which I have heard very generally made, and which my own obſervation confirms, 'that they are peculiarly mild and pleaſant for the table,' ſeems, in ſome degree at leaſt, to militate againſt this opinion.

Irrigation, which has lately been introduced into this county, and purſued with great ſpirit and judgement, will, in ſome caſes this year, fail to produce one of its moſt valuable advantages, early ſpring feed, owing to what, at this ſeaſon of the year is a very unuſual complaint, a ſcanty ſupply of water. The ſprings are ſo low, that a ſufficient quantity cannot be obtained for flooding; of courſe, the operation can, at the beſt, be but imperfectly executed. The average price of grain has been low; and I am perſuaded the farmer cannot afford to ſell it at the preſent rates. In the early part of the Report I have obſerved, that the bulk of the crop collected during the harveſt was very conſiderable. I doubt, however, whether the produce of corn, per acre, will exceed an average crop. Should I ſay wheat is three, and barley four quarters per acre, I am perſuaded, if I am erroneous in my calculation, it is in its exceſs; and as it is well known, that no conſiderable ſtock remained in hand at the commencement of harveſt, the preſent low price can only be accounted for, on the ſuppoſition that the crop in other quarters of the kingdom has greatly exceeded its uſual average, or that very extenſive importations have been made.——*Jan.* 17.

Yorkſhire

Yorkſhire Quarterly Report.

THERE is ſomething peculiarly pleaſant, in the view of the preſent ſituation of the markets, in regard to the prices and ſupply of the varied products of rural economy—articles of univerſal conſumption. Every neighbouring market is conſtantly and abundantly ſupplied; yet the prices of the moſt neceſſary articles, ſuch as the various kinds of grain, cannot be deemed ſo low, as to form any abſolute diſcouragement to the grower, eſpecially as the produce of the preceding year was alſo good; while thoſe of leſs immediate neceſſity, ſuch as grazing products, &c. are ſelling at prices at leaſt as encouraging as at any former period whatever, all circumſtances conſidered. The liberal and intelligent farmer will ever conſider it as an axiom, '*That good crops, with moderate prices, conſtitute his real proſperity.*'

The crops of wheat, barley, and oats, are rather ſuperior to the average produce, and turn out ſubſtantially on the floor. Grain is generally of excellent quality. Beans and peas were bulky on the ground, but are not expected to yield adequately in grain. The beans were late in ripening, nipt by the autumnal froſts, and ill-harveſted.

Till the preſent ſevere froſt, and extremely cold eaſt winds, the growing wheats had a moſt luxuriant appearance, which, though flattering at the time, is by no means a ſure omen of a favourable reſult: as the ground here is bare of ſnow, the cold may give them a ſeaſonable check. A very conſiderable proportion of the arable land has been ſown with that grain, in the beſt poſſible order and time.

The turnips, though by no means a deficient crop, are far ſeen into, (the early period of the Winter conſidered) from the unuſual ſhortneſs of the hay and after-graſs. They have accordingly been ſold at high prices, which is very different from the caſe of laſt Winter, when many of them were abſolutely waſted for want of cuſtomers. The preſent price of hay is about five guineas per ton.

The potatoes have very much diſappointed the expectations of the growers in general, who had flattered themſelves with the idea of a crop proportionate to the promiſe of top: they conſequently began ſelling at very low prices, but are now about 2s. 6d. per buſhel. Apples are extremely ſcarce and dear (16s. per buſhel), in conſequence of the deſtructive froſts of the Spring and Summer.

Fat cattle are at high prices; and, by all accounts, lean ſtock are at a ratio comparatively higher ſtill. Good horſes are extravagantly dear. Beef, Mutton, Veal and Pork, are about 8d. per lib.; and the demand for theſe articles appears to be increaſing.——*Jan.* 17.

Letter from Stafford, 18th January.

'Beaſts and ſheep ſtill keep up in price, and cheeſe ſells at 3l. *per* hundred of ſix ſcore. Owing to a great demand from the clothiers in Yorkſhire, wool has lately advanced much, and land rent is daily getting higher; though, if the grain markets continue at the preſent rate,

I cannot ſee how farmers are to pay their way, the expence of labour and public burdens being now ſo enormouſly increaſed.

'My Dorſet ewes are beginning to drop their lambs, which are doing well, notwithſtanding the weather has, for ſome time paſt, been very ſevere. The act of Parliament for encloſing Needwood foreſt, paſſed, notwithſtanding the violent oppoſition given to it by ſome intereſted men, as hinted in one of my former letters.'

Northumberland Quarterly Report.

From the date of laſt Report to the beginning of November, the weather continued very favourable for harveſting the moor crops of corn, and the beans in the lower diſtricts. On the 20th October, we had a ſufficient quantity of rain, that left the Summer-fallows and bean lands, which were before too dry, in a fine mellow ſtate, peculiarly proper for ſowing wheat; and this favourable opportunity was not let ſlip by good farmers: probably the wheat ſeed was never put in under more favourable circumſtances with reſpect to weather, to which cauſe the ſubſequent healthy appearance of the crop may, in a great meaſure, be attributed.

Through the greateſt part of November, and beginning of December, the general ſtate of the weather was wet; but not to ſuch a height as to prevent the uſual operations of huſbandry from going forward, particularly the ploughing for the next year's fallow and Spring crops, which is everywhere in a great ſtate of forwardneſs. The preſent froſt commenced on the 10th inſtant, at a very convenient period for getting out manure, and forming dunghills in the fields intended for turnips next ſeaſon.

It is much to be feared, that the continued rains in the month of July, and the great flush of graſs immediately ſucceeding, has been productive of the rot in ſheep, as, on that account, many farmers have (within the laſt two months) been under the neceſſity of ſelling conſiderable numbers of their flocks at a very reduced price; and it ſeems there are yet many more in a doubtful ſtate upon moſt of the lands that are liable to that deſtructive, and hitherto unaccounted for, malady.

In laſt Report, it was hinted, that the turnip crop was not good, except upon dry loams; but theſe, ſince that time, have been conſiderably deteriorated, by their ſhooting out ſeed ſtems in the latter end of October and beginning of November; ſo that, in many fields, there is ſcarcely a turnip to be found without a long neck, or a ſtem from two to three feet high: and, probably, ſuch a general inſtance of turnips ſhooting before Winter, is not recollected by the oldeſt cultivator of that valuable root.

The proſpect of the prices of ſtock lowering in the latter end of September and beginning of October, was of ſhort duration. At Newcaſtle fair, on the 29th October, lean cattle for ſtraw were never known to be ſold at ſuch prices, nor ſo few brought to market. Fat ſtock has alſo

alſo lately made a conſiderable advance, the preſent prices being 8s. 6d. *per* ſtone, ſink, for good beef, and 8d. to 9d. *per* lib. for ſheep.

Our corn markets have been, and are yet very ſlow:—the principa demand is for oats to the London market, particularly the potato oat, for which 6d. *per* buſhel more is given than for any other kind. The quality of wheat is ſo various in this diſtrict, and ſome of it ſo very bad, that, on the ſame market day, the prices have been from 3s. 6d. to 7l. a buſhel In this county, it turns out a more deficient crop than was expected.

POSTSCRIPT TO SCOTISH INTELLIGENCE.

Letter from Glaſgow, 22d January.

'The crop in general, in this quarter, is turning out very poorly, particularly that of wheat and barley: the former was never known to be ſo bad in quality: in many inſtances, our farmers have been without getting a price offered for it. The latter is alſo very poor; and, on account of the new duty on malt, our brewers will not look on it at any price. They are, however, well ſupplied with that grain, from England, of the beſt quality we have heretofore ſeen.

'Our potato crop has turned out but poorly, both as to quantity and quality. Oats is the only grain that is good; although they are falling much ſhort, both as to ſtraw and meal, from what was once expected; but theſe wants are, in a great meaſure, made up by the late extenſive importation. Since the 20th October laſt, we have had about 19,000 *quarters wheat*, and 3500 *barrels flour*, from America; 12,000 *bolls oats*, and 18,000 *bolls oat meal*, from Ireland. The greateſt part of the flour, however, with about 7000 quarters of the wheat, has been again exported to the Mediterranean. The meal is chiefly intended for the Highlands and Weſtern diſtricts, as Iriſh meal ſeldom takes in this market. We are ſtill in the expectation of a few cargoes more wheat from Virginia, through the Winter, with a pretty large ſupply of oats and oat meal from Ireland, little or no new grain having as yet arrived from that country.

'Our market at preſent is well ſupplied with all kinds of grain; and from the ſtock on hand, and the proſpect of a further ſupply from Ireland in particular, prices will, we think, keep moderate for ſome time to come.

'State of Glaſgow Markets, January 22. 1803.

American wheat,	31s.—33s.	per boll of 240 lib.	Engliſh.	
Dantzic ditto,	32s.—34s.	ditto	Linlithgow	meaſure.
Engliſh ditto,	32s.—35s.	ditto	ditto	ditto
Eaſt-Lothian ditto,	30s.—32s.	ditto	ditto	ditto
Scotch North-country ditto,	28s.—30s.	ditto	ditto	ditto
This Neighbourhood ditto,	16s.—25s.	ditto	ditto	ditto
Norfolk barley	25s. 6d.—26s. 6d.	ditto	Stirling	ditto

Berwick

Berwick Barley -	21s.—22s.	per boll	Stirling meaſure.
North of Scotland ditto,	17s. 6d.—20s.	ditto	ditto ditto
This Neighbourhood ditto,	12s.—16s.	ditto	ditto ditto
Iriſh oats, - -	16s.—19s.	ditto	Renfrew ditto
Engliſh ditto (very fine),	20s.—21s.	ditto	Stirling ditto
Scotch ditto - -	12s.—16s.	ditto	Lanark ditto
Beſt oat meal - -	19s.—20s.	do. 15d.—16d.	p. peck, retail
Iriſh ditto - -	15s.—16s.	ditto 1s.—1s. 1d.	ditto, ditto
Britiſh fine flour -	33s.—35s.	ſack of 2¼ cwt.	
American ſuperfine ditto	40s.	barrel; Fine 36s.—38s.	
Engliſh beans - -	22s.—23s.	boll	Stirling meaſure.
Scotch ditto - -	16s.—22s.	ditto	ditto ditto
Ditto peas - -	18s.—21s.	ditto	ditto ditto
Engliſh and Foreign white ditto	23s.—25s.	ditto	ditto ditto. '

Moraysſhire Quarterly Report.

THE quantities of wheat, barley, and oats, in this county, are now found to be fully equal to the average of ordinary ſeaſons; the quality not ſo good. Wheat weighs only 60 lib. Engliſh the firlot of 22 Scots pints. Barley 68 lib. Dutch per firlot of 32 Scots pints; and Oats 54 lib. Dutch, ſame meaſure.

Sales are dull in the extreme, and no ſort of demand from our uſual markets in the South and Weſt of Scotland. In the hope that wheat may yet come into requeſt, merchants are buying parcels at 25s. per boll; and a few oats at 12s. to 13s. 6d. as in quality.

Our barley no perſon will touch; and, to many, the cauſe is obvious. The late act of Parliament, laying a ſimilar duty on Scotch as on Engliſh barley, has induced our brewers and diſtillers to order north ſeveral cargoes of the latter; and as the produce ſo far exceeds our own, it is highly probable they will continue to do ſo, until Scotch beer is reduced to, at leaſt, two thirds the price of Engliſh barley. It ſeems evident, that had Government intended the ruin of this branch of Scotiſh agriculture, no meaſure ſo effectual could have been adopted; but the anxious ſolicitude of the preſent Miniſter for the proſperity of the country, and his experienced candour, leave no room to doubt that the repreſentations on this important ſubject, preſenting from all quarters, will receive that attention which they deſerve, and that redreſs which they require.

The ſale of cattle terminated, in Autumn, at prices unuſually high. Juſt now, there is little doing; for, as the price of beef riſes in our weekly market, the diſpoſable quantity diminiſhes; the preſent retail price is 7d. per Dutch lib. Few farmers now feed for the butcher, finding it more beneficial to beſtow their turnips on young well-choſen cattle, which are uniformly purchaſed by dealers, in March and April, for the South-country markets. Two ways of feeding thoſe cattle are adopted; both have their advocates. The one way is, keeping them looſe in a ſhade, with open ſtraw-yard in front, and giving the turnips on a graſs field: The other is, to have them bound up in byres, and there

fed

fed with turnips and ſtraw; occaſionally letting them out to a court yard for air and exerciſe. While the latter mode evidently puts on moſt fat, the other is ſuppoſed to keep the cattle more hardy, conſequently, better able to ſtand the fatigue of journey and cold, when turned out to graſs.

Land rents here, as in every other part of the iſland, are much on the riſe; and no farm is ſooner known to be in the market, than ſeveral candidates appear for it. In many inſtances, rents are doubled, nay tripled, within the laſt nineteen years; but a very uncommon advance has taken place within theſe four or five years paſt. In ſituations where no foreign manure can be had, beſt open field lands are letting at 50s. per acre; middling lands 25s. to 35s.; and the very pooreſt ſandy ſoils at 15s. on leaſes of nineteen years. Were thoſe lands encloſed, and ſubdivided with ſufficient ſtone dikes, (at leaſt, ſuch as are calculate for grazing, and where materials can be had), there is little doubt but the preſent rents may ſtill be ſupported, admitting the tenant was to pay 6 per cent. intereſt for the caſh ſo laid out by the proprietor; and it is not eaſy to conceive how *he* could derive a more immediate and certain return for his money. But it is, however, a fact, that, to this day, there is ſcarcely a ſingle encloſure, in this county, on any farm occupied by a tenant!——*Jan.* 21.

Fife Quarterly Report.

Although the harveſt of this county was in general well finiſhed, yet, on many farms, the peas crop received great damage from the wet weather which ſet in at the concluſion of the ſeaſon. Both peas and beans are remarkably unproductive; the grain bad in quality; and the ſtraw almoſt rotten. Wheat is vaſtly inferior, both as to quantity and quality, when compared with crop 1801, much of it being ſmutted and mildewed. Barley yields not amiſs upon the floor; but the quality thereof is ſo inferior, that few purchaſers have offered. Oats are our beſt crop; though, on high farms, or on moſſy and marſhy ſoils, they yield very poorly. Potatoes are below a medium; and Flax is worſe than ever ſeen in this county. The price of it, when dreſſed, is 16s. and 17s. *per* ſtone; and as for Seed, a fourth of the uſual quantity will not be gained.

Under theſe circumſtances it might have been expected that the general ſcale of prices would have been in uniſon with the imperfectneſs of the crop; but this is ſo far from being the caſe, that a want of purchaſers is evident to the dulleſt perſon. This proceeds from the exceſs of foreign importations, and the quantity of grain poured into this country from England, which this year is ſo ſuperior to our own, that none of our home produce, unleſs ſuch as is of the firſt quality, can be ſold. The increaſed rate of the malt tax contributes to the depreſſion of Barley; for ſo long as the ſame duty is exacted upon the worſt as upon the beſt grain, the latter muſt inevitably find a preference.

Trade and manufactures continue to proſper, and may they continue to do ſo! but when labourers and artiſans can earn ſix days proviſion by three days labour, it is clear, to demonſtration, that the price of victual

is approaching to an extreme that muſt prove dangerous to the proſperity of the country. The farmer becomes diſcouraged, improvement ceaſes, and with it the land becomes leſs productive. Rents cannot be paid; the proprietors in conſequence become poor themſelves; and, from a want of energy in a country ſo diſtreſſed, the greateſt evils may be dreaded. A ſcarcity may again raiſe prices immoderately high, and that at a time when manufacturers, from a habit of idleneſs acquired in theſe plentiful times, are unfitted for meeting diſtreſs when the hour of calamity comes round. It would be a wiſe meaſure therefore to bring the rate of wages and the price of proviſions nearly upon an equal ſcale, as this would tend to the real intereſt of the manufacturer, as well as that of the farmer and proprietor.——*Jan.* 20.

Argyllſhire Quarterly Report.

In a county which is chiefly devoted to paſturage, the agricultural Report at this ſeaſon of the year muſt be very circumſcribed. After a rainy Harveſt, the Winter ſet in mild and dry; ſo that the provender was long ſaved, therefore likely to prove abundant. The cattle are alſo in good order, and the prices and demand for them expected to be as great as ever. For the two-year-olds of next May, ſome have already refuſed 10l.—A great part of the Bear crop is, and will continue to be converted into whiſky, and ſmuggled into the Low country, till the men in power ſhall think proper to licenſe ſmall ſtills as formerly; a meaſure that would conduce not a little to the improvement of the health and morals of the people, and to the increaſe of the revenue. In the more arable diſtricts of the county, not a great deal has yet been ploughed. Our farmers are not ſufficiently ſenſible of the benefit of froſt, to moſſy, ſtiff, and lea grounds, which ought to be turned up before it ſets in; which it ſeldom does in the lower parts of this county till about the middle of January. For ſome time the weather with us, as in other parts, has been remarkably ſtormy; and for eight days paſt, the froſt has been very keen, and the cold very ſevere. This day a gentle thaw begins to unlock the earth, and to invite the plough.——*Jan.* 18.

*** *For Notices to Correſpondents, ſee page* 3. *of the Cover.*

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